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THE AMERICAN ELEVATOR AND GRAIN TRADE.

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A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

PUBLISHED BY
MITCHELL BROS. COMPANY
(INCORPORATED).

VOL. XIX.

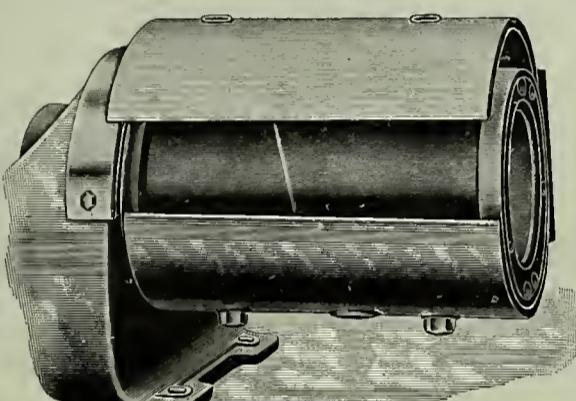
CHICAGO, ILLINOIS, JANUARY 15, 1901.

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SINGLE COPY, TEN CENTS.



Simplest Engine Built.



Davis Patent Detachable Water Jacket.

Write for Catalog

Describing a thoroughly high grade engine combining the most modern improvements.

On the market eight years.

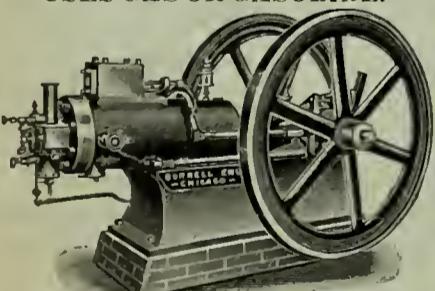
Thousands in use.

Successfully Used by Largest Elevator Lines in the Country.

OMAHA, NEB.

DAVIS GASOLINE ENGINE WORKS CO., WATERLOO, IOWA.

The BURRELL ENGINE
USES GAS OR GASOLINE.



THERE IS NOTHING BETTER.
Quality High. Price Low.

SKILLIN & RICHARDS MFG. CO.,

241-247 So. Jefferson St., CHICAGO,

MANUFACTURE AND FURNISH

Modern Appliances

For elevating and conveying grain and like commodities.

ROPE, BELT AND CHAIN TRANSMISSION.

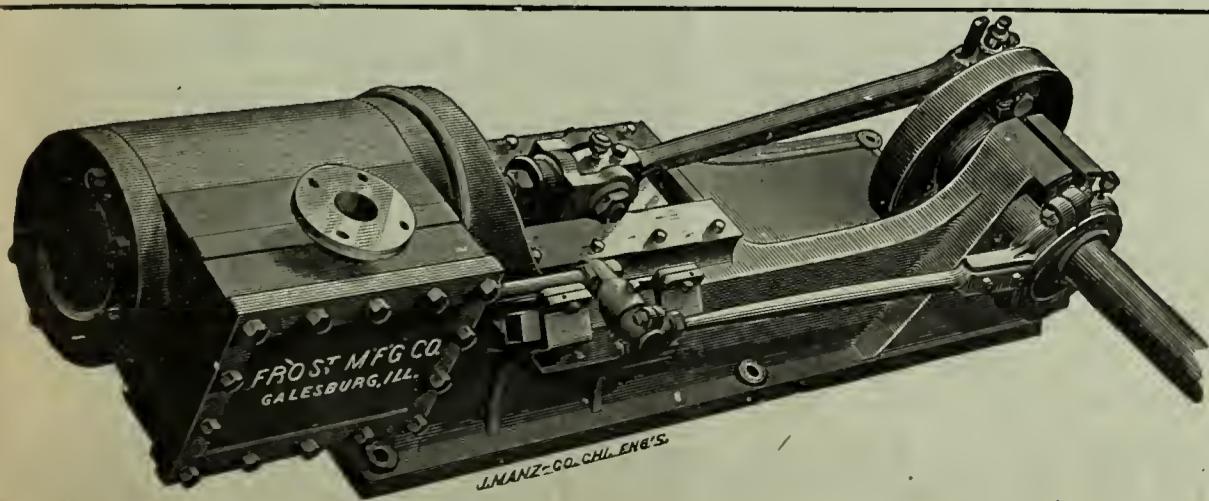
COMPLETE OUTFITS FOR LARGE OR SMALL GRAIN ELEVATORS.

“SALEM BUCKETS.”
EVERYBODY KNOWS THEM.
EVERYBODY USES THEM.



Send for our catalogue.

Write us for prices.



FOR PRICES AND DISCOUNTS
ON
Elevator Machinery
AND SUPPLIES
OF
Every Description,
EITHER STEAM OR HORSE-POWER,
ADDRESS
THE FROST MFG. CO.,
GALESBURG, ILL.

THE OLD AND THE NEW

We can suit a conservative who believes in French burr stone for

FEED GRINDING,

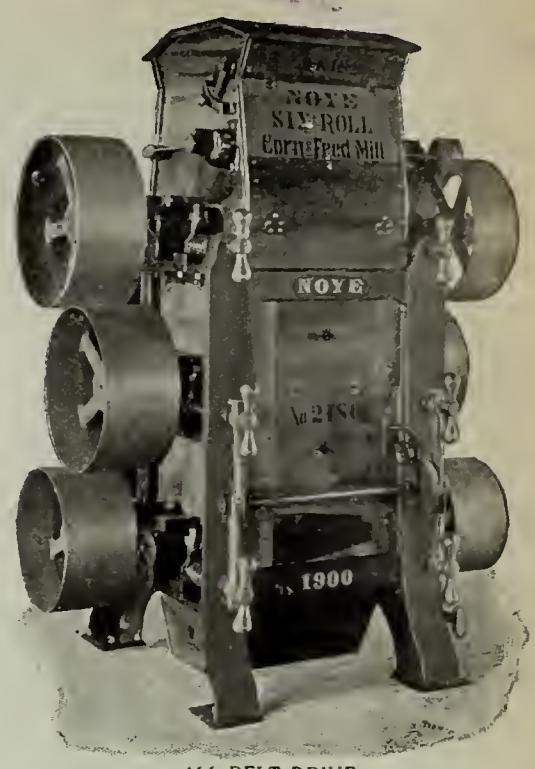
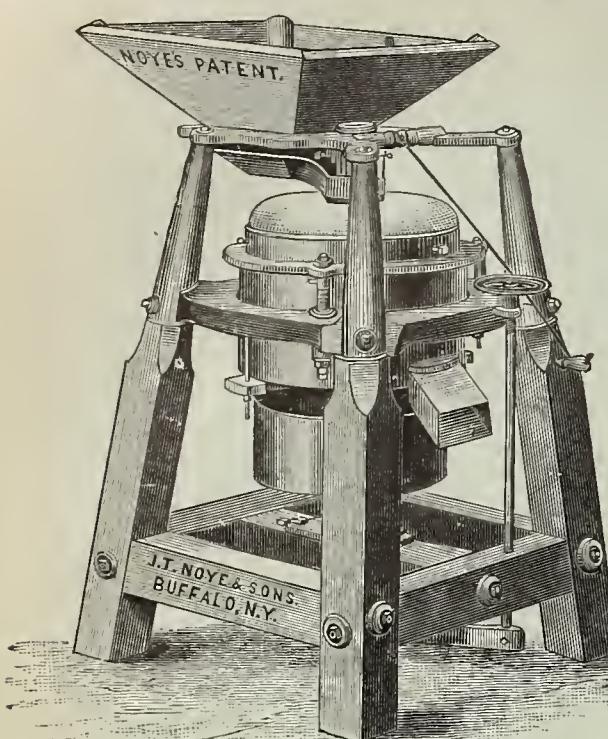
For we have the best stone mill on the market.

We also meet and exceed the expectations of the progressive with our famous

SIX-ROLL MILL.

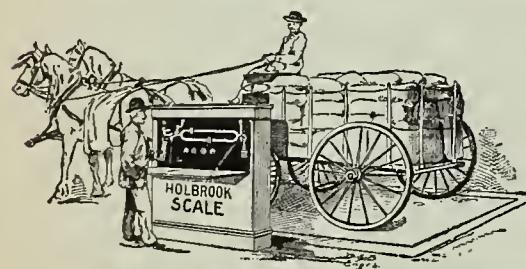
Grinds seventy-five bushels of fine meal per hour with fifteen horsepower. It grinds oats and cobs equally well.

Noye Manufacturing Co., Buffalo, N. Y.



Grain Elevator Machinery and Supplies.

Wagon, Hopper, Portable and Dump Scales.



Gas and Gasoline Engines of all sizes. Carry full stocks and can furnish you complete elevator equipment on short notice.

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FROM
\$2 TO \$1.

CONTAINS freight agents' official list of flouring mills, elevators, grain dealers, shippers and commission merchants, located on all the principal railroads in the United States and Canada. Also contains the grading and inspection rules of leading markets. This is the handiest and most complete list of the kind published. If you do business in this line, you can scarcely afford to be without it. This 1899-1900 edition contains over 200 large pages, in a durable cloth binding. Sent postpaid on receipt of \$1.00.

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FOR USE IN

ELEVATORS, DISTILLERIES, MALT HOUSES, FLOUR MILLS, ETC.

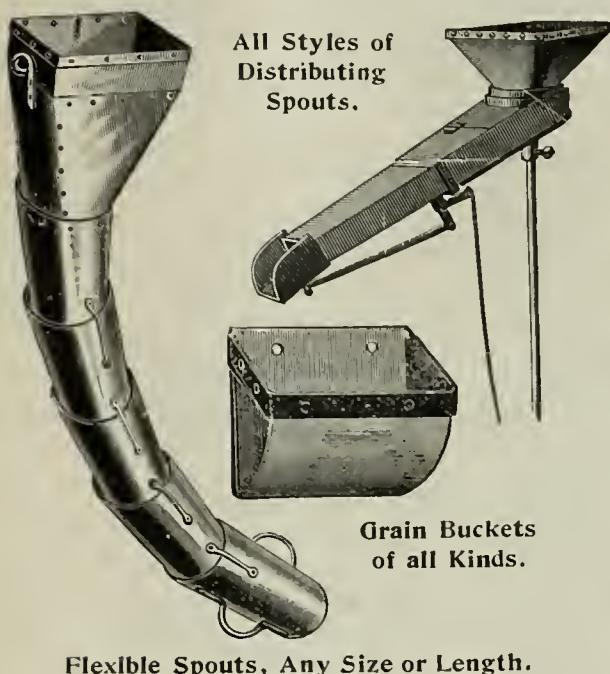
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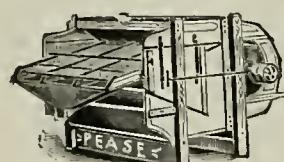
SEND IN YOUR SPECIFICATIONS AND WE WILL QUOTE YOU PRICES. GENERAL CATALOGUE FREE.



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Flexible Spouts, Any Size or Length.

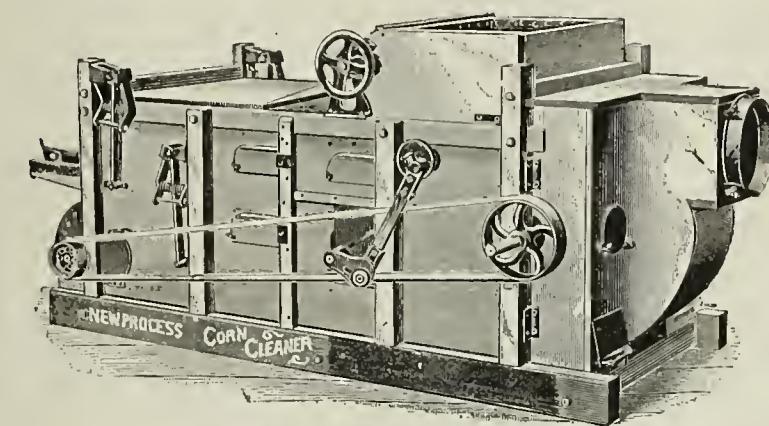


Fanning Mills and Warehouse Separators.

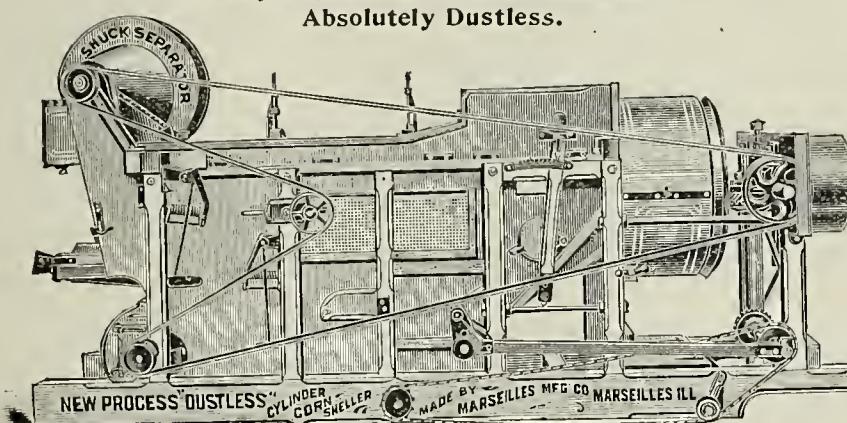
Pulleys, Shafting, Hangers, Gearing, Pillow Blocks, Set Collars, Sprocket Wheels, Chain, Rubber, Cotton and Leather Belt.

Power Transmitting Appliances of Every Description.

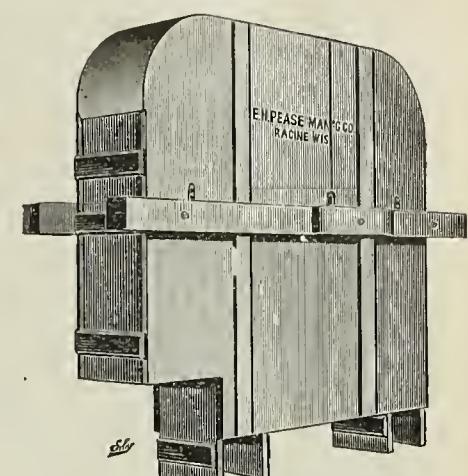
SHEET-STEEL WORK A SPECIALTY.



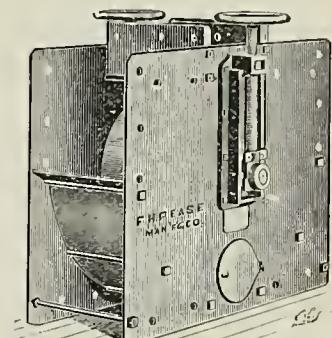
Easily Adjustable, Lightest Running, Absolutely Dustless.



New Process Corn Shellers and Cleaners, furnished either as Combined or Separate Machines, also with or without Husk Separating Attachment.



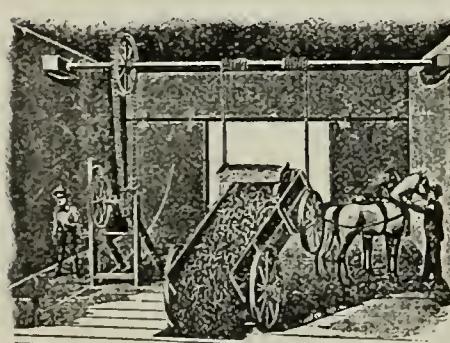
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Elevator Boots, All Styles, Wood, Steel or Cast Iron.

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SMITH'S
Automatic Warehouse and Elevator
Machinery.

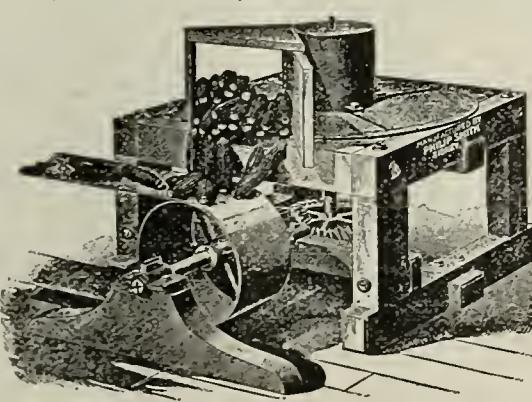


THE MARQUIS PATENT

Ear Corn Elevator
and Sheller Feeder.

Feeder will feed corn from the dump to the elevator or sheller with or without drag belt. Will feed 100 to 1,500 bushels per hour without any attention. Can be regulated to the capacity of the sheller or elevator while in operation. Can be made to feed either sheller or elevator by changing reverse board. It is made of iron and is very durable. It will last a lifetime. Can be applied to dump now in use at very little expense. We have over 5,000 of these machines in use that are giving universal satisfaction.

Prices furnished on application.



Agents Wanted to Sell Our Full Line of Corn and Elevator Machinery.

PHILIP SMITH, Sidney, Ohio.

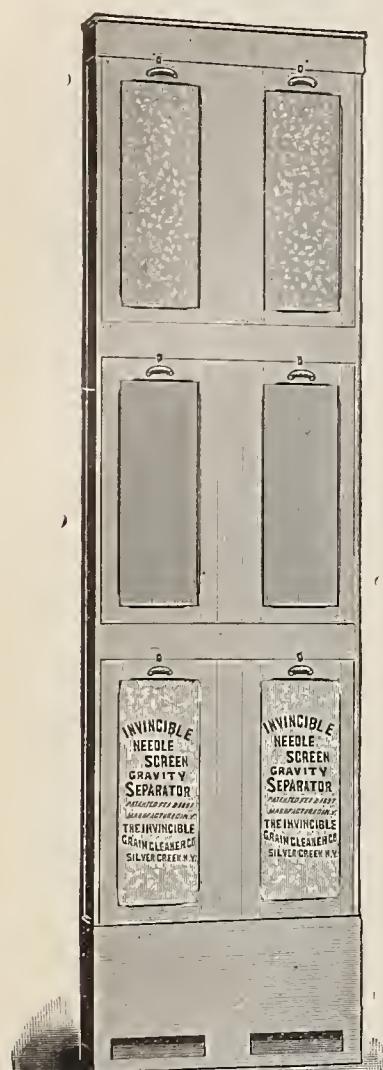
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Are more largely used on this continent than all others combined, because they are the only machines that will handle with equal facility grain containing 50 per cent moisture to that simply damp and musty. These machines will operate successfully and rapidly at a temperature as low as 110 degrees. Practical millers and elevator men will appreciate this. It is one thing to kiln dry and another to put every kernel of grain into its normal condition by Nature's own method. **We can do it.**

For Particulars
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**The Paine-Ellis
Grain Drier Co.,**

If You Are a Handler of Barley, Malt or Oats, THESE MACHINES ARE INDISPENSABLE.



INVINCIBLE NEEDLE SCREEN
GRAVITY SEPARATOR.

A FEW OF THE USERS; READ THEM OVER CAREFULLY:

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INDIA WHARF BREWING CO., Brooklyn, N. Y.
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AMERICAN MALTING CO. use 75 of them in their various houses.

We also make a complete line of power separators and oat clippers. Our new catalogue is now out and we would like to send you a copy. Postal card us.

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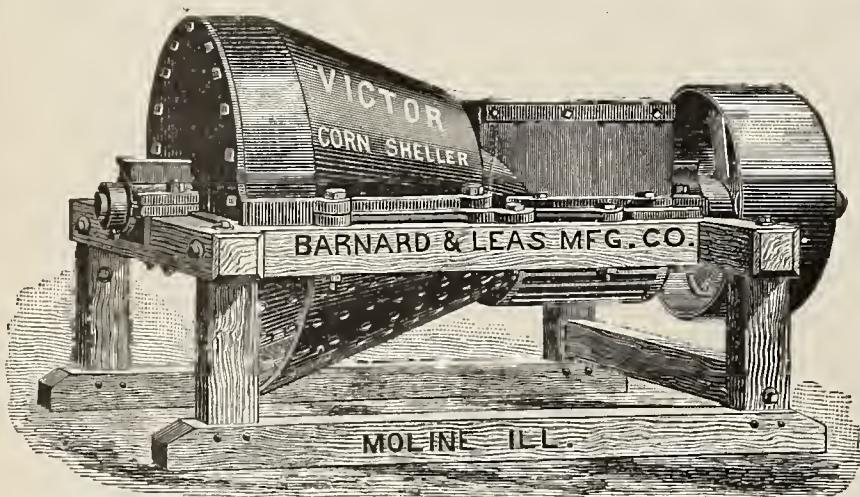
W. J. Scott, Wyoming Hotel, Chicago, Ill.

Chas. H. Scott, Nicollet Hotel, Minneapolis, Minn.

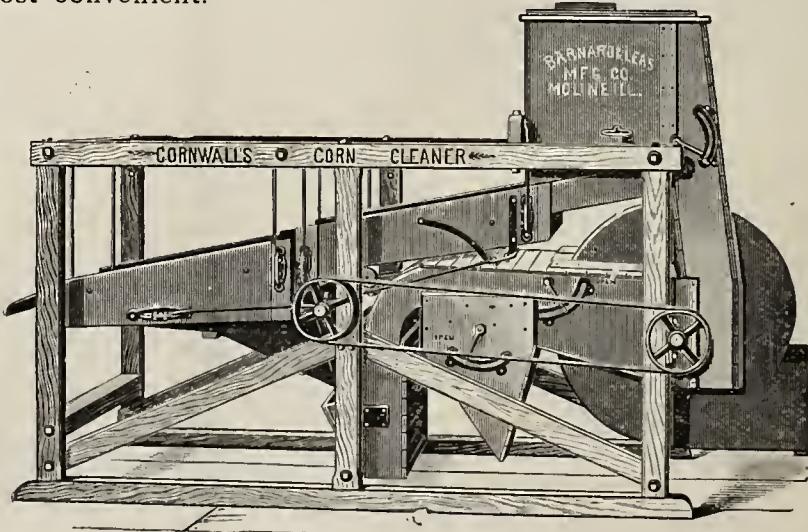
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THESE ARE THE MACHINES FOR HANDLING CORN.



The Victor Corn Sheller possesses unequaled capacity, strength and durability. It has a patent automatically acting feeder, which allows the machine to be run either way without crossing the belt. Is easily adjusted to suit conditions of corn. It will not clog. Can be stopped and started regardless of quantity of corn in hopper or dump and can be set in any manner most convenient.



Cornwall Corn Cleaner cleans corn cleaner with one operation than any other machine. Saves screenings for feed. Is dustless, light running and durable. Use it and your corn will never grade dirty.

ALL INQUIRIES WILL BE CHEERFULLY AND PROMPTLY ANSWERED.

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ENGINEERS, FOUNDERS, MACHINISTS,

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Branches: CHICAGO, BOSTON, NEW YORK, CINCINNATI, ATLANTA, GA., LONDON, ENG.

MANUFACTURE A COMPLETE LINE OF

GRAIN ELEVATOR MACHINERY

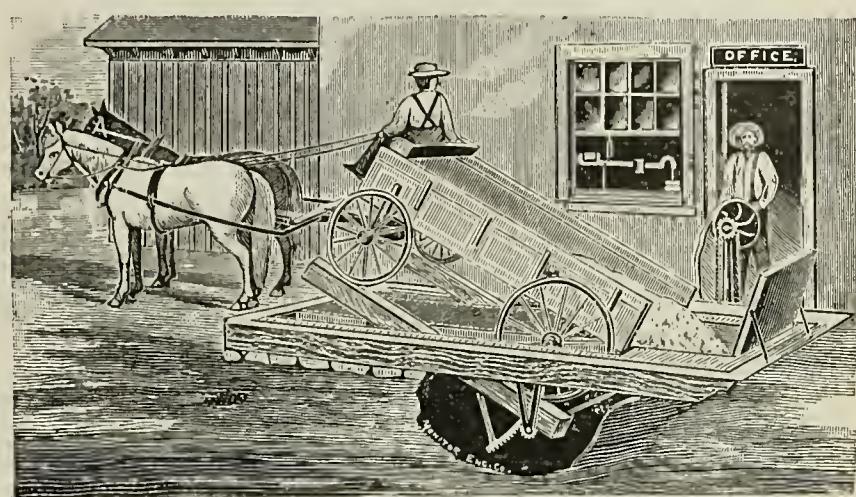
Embracing latest types of Grain Trippers, Power Shovels, Car Pullers, Belt Conveyors, Marine Legs, Spouting, Etc.; Self-oiling and Dustproof Bearings, also Dodge American System Manila Rope Transmission.

The following Grain Elevators, under construction or in operation, are among those recently equipped:

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Northern Grain Co., Manitowoc, Wis.,	- " 1,200,000 "
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Botsford & Jenks, Meaford, Ont.,	- " 1,000,000 "
Chicago Dock Co., Chicago, Ill.,	- " 1,000,000 "
D. H. Stuhr Grain Co., Hammond, Ind.,	- " 600,000 "
Electric Steel Elevator, Buffalo,	- " 1,200,000 "
McReynolds & Co., Hammond, Ind.,	- " 2,000,000 "
Calumet Elevator Co., South Chicago, Ill.,	- " 1,200,000 "
Rosenbaum Bros., South Chicago, Ill.,	- " 1,000,000 "
Peavey Grain Co., South Chicago, Ill.,	- " 1,500,000 "
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Have the Largest Factory in the World Exclusively Devoted to the Manufacture of Power Transmitting Machinery. CATALOGUE UPON APPLICATION.

Gold Dollars



At FIFTY CENTS apiece are CHEAP, but they do not represent a better investment than we offer the "elevator and grain trade" in our

Controllable Wagon Dump.

WINCHESTER, ILL., February 4, 1896.

MESSRS. SAVAGE & LOVE CO., Rockford, Ill.

GENTLEMEN:—Your favor of the 28th ult. received and noted. Last July I put one of your Controllable Wagon Dumps in a Fairbanks, Morse & Co.'s 22-ft. scale, and it has given me entire satisfaction in every respect. In this locality the bulk of grain is as yet handled in sacks, and by tipping the Dump about one-half it makes a nice slant, making it very easy to pull the sacks to back end of wagon, where strings are cut and grain runs out into bin below. Every farmer, without exception, speaks in glowing terms of the merits of this Dump. In unloading loose grain from wagon there is no dump that will equal yours in being easily handled and always under control of operator. No scaring horses, no dropping of wagon and no noise. I consider a grain elevator incomplete without the Savage & Love Controllable Wagon Dumps.

Yours truly,

M. C. WOODWORTH.

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THE SAVAGE & LOVE CO., Rockford, Ill.

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MACHINES WORTHY OF CLOSE INVESTIGATION.

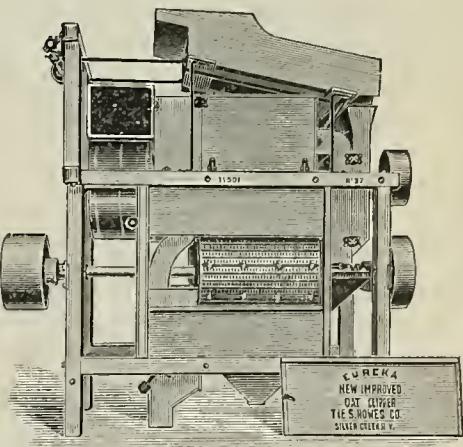
“EUREKA” ELEVATOR SEPARATOR.

This is the machine you need to extract oats from wheat. Counterbalance-Shoes, Drive insuring smooth and steady running. Perfect air separations, two fans drawing air from both sides, wide separator leg, wide shoe, giving grain perfect cleaning.

“EUREKA” ELEVATOR OAT CLIPPER.

New style clipping and longer cylinder; beaters automatic; discharge fan on separate shaft, enabling operator to run either fan or cylinder at any desired speed, shoe placed lengthwise of machine.

Like all “Eureka” Grain Cleaners the above machines are built of the best material.



THE S. HOWES CO.,

ESTABLISHED 1856.

EUREKA WORKS,

SILVER CREEK, N. Y.

B. F. RYER, General Western Manager, 11 Traders' Bldg., Chicago, Ill.

Duplicate parts of all Eureka Machines built, from the time of Howes, Babcock & Co., in 1856, until the present.

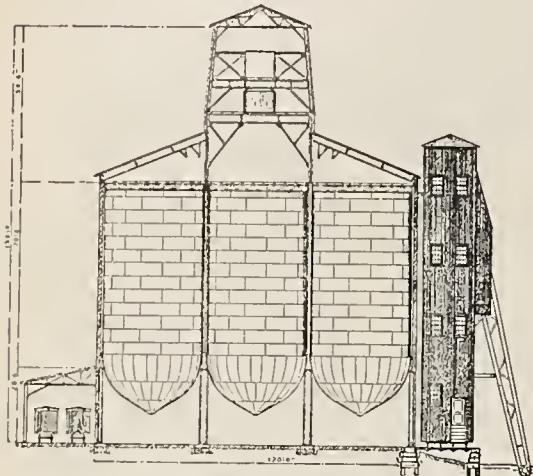
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MANUFACTURERS, ENGINEERS, CONTRACTORS.

Grain Elevators of Steel,

ALSO

Gas Holders with Steel Tanks.



Cross section of Great Northern Elevator furnished by us at Buffalo, N. Y. Three million bushels' capacity. Steel throughout.

Water and Oil Tanks,
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Every Description,

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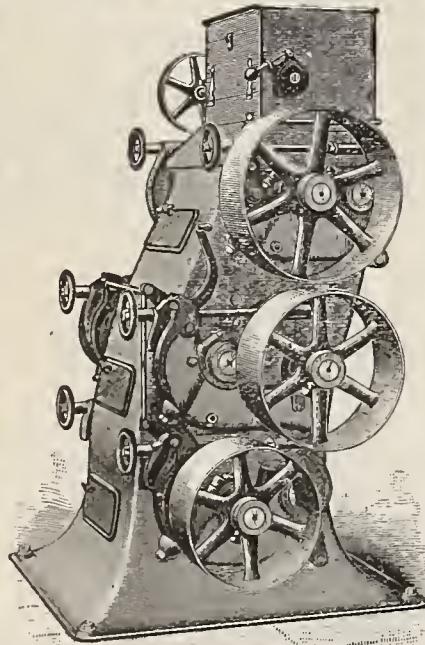
LONG-DISTANCE TELEPHONE CONNECTIONS.

Notice!

We, the undersigned, hereby notify the public that we own and control all the rights for the Process of Bleaching and Purifying Grain under U. S. Letters Patent Number 592,691, issued October 26, 1897, to E. F. Cazalet, who, for value received, assigned to us all his right, title and interest in said patent on October 30, 1899.

Notice is also given that any person, or persons, using such process without obtaining the right to do so from us will be prosecuted according to law; and any person advising us of such violations will be suitably rewarded. We also advise the public that we have no agents, and that all business must be done direct with this office.

McCRAY, MORRISON & CO.,
KENTLAND, INDIANA.



3-PAIR-HIGH, SIX-ROLLER MILL.

CUSTOM WORK!

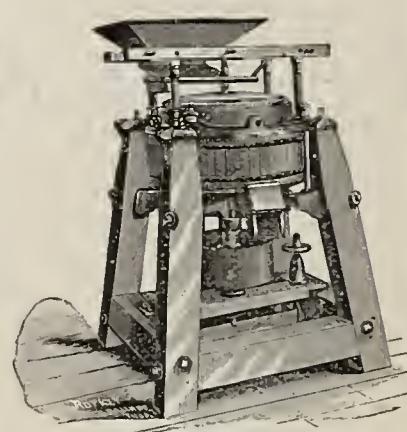
UTILIZE YOUR POWER
BY OPERATING A GOOD MILL FOR GRINDING

...FEED AND MEAL...
IT PAYS

WE MANUFACTURE
THREE-ROLL, TWO-BREAK MILLS, 2 Sizes.
THREE-PAIR HIGH, SIX-ROLLER MILLS, 4 Sizes.
TWO-PAIR HIGH, FOUR-ROLLER MILLS, 5 Sizes,
...And...

PORTABLE FRENCH BUHR MILLS,
85 Sizes and Styles.

SEND FOR BOOK ON MILLS.



VERTICAL
UNDER RUNNERS,
UPPER RUNNERS,
PULLEY AND GEAR DRIVES.

ELEVATOR SUPPLIES AND POWER CONNECTIONS.

ROPE DRIVES, GEARING, CORN SHELLERS and CLEANERS, GRAIN CLEANERS.

DUST COLLECTORS (Tubular, Automatic).

CUPS.

We manufacture Elevator Cups for all purposes, and make a greater number of sizes than found in any standard list. Our Cups have greater capacity than others of same rated size; for instance, our $3\frac{1}{2} \times 3$ inch, list price 9c., has as much capacity as others $3\frac{1}{2} \times 3\frac{1}{2}$ inch, list price 10c. Our prices are right.

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NORDYKE & MARMON CO.,

FLOURING MILL ENGINEERS, IRON FOUNDERS AND MACHINISTS. ESTABLISHED 1851.

INDIANAPOLIS, INDIANA, U. S. A.



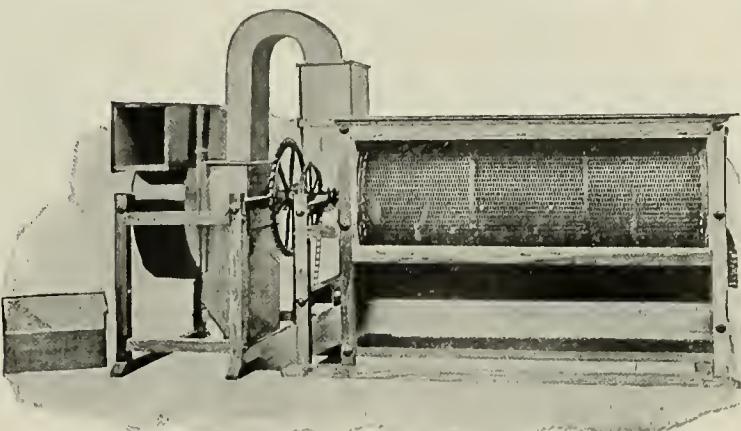
"Western" Warehouse Sheller.

SOLE MANUFACTURERS

"Western" Shellers and Cleaners, BEST ON EARTH.

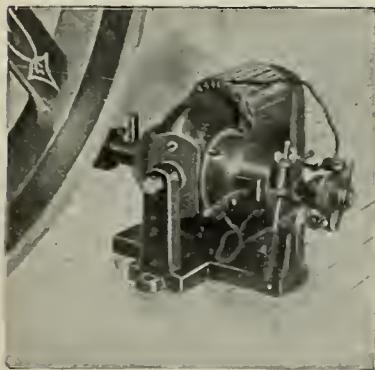
Complete Elevator Equipments our Specialty.

Write for Catalog.



"Western" Warehouse Cleaner.

THE AUTO-SPARKER

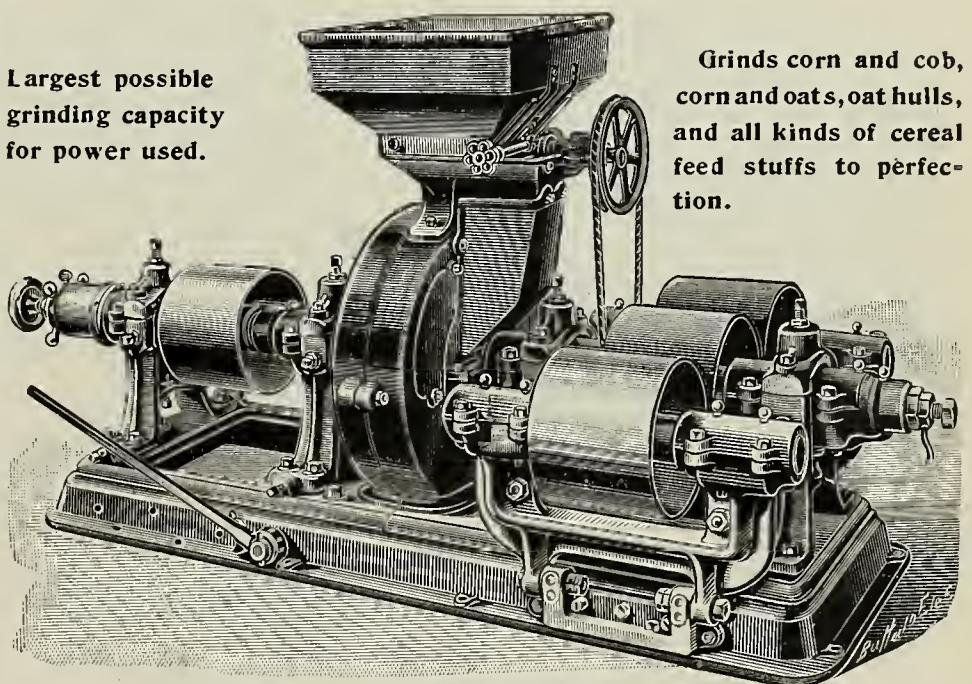


1. Starts and runs gas engines as easily as best batteries.
2. Does not burn up electrodes.
3. Machine is durable, nothing to wear out but shaft and friction pulley and these should last for years.
4. Saves its entire cost over batteries in one year.
5. Hundreds in use. Every machine tested and guaranteed to do the work claimed.
6. Automatic governor regulates speed of dynamo, no matter what size or speed the fly-wheel of engine.
7. You need no battery. Auto-Sparker can be fastened to floor, as in cut, or on body of gas engine or automobile.

DIMENSIONS: $10\frac{3}{4} \times 10 \times 6\frac{3}{4}$ inches. Weight, 23 pounds. Made for either touch or jump spark. For particulars, addressMOTZINGER DEVICE MFG. CO., PENDLETON, INDIANA,
Or any Gas Engine Manufacturer.Less dust and more money in running your Elevator? Write to
H. L. DAY, Minneapolis, Minn.

FEED GRINDING PAYS,

*Especially if you do it on a
MONARCH ATTRITION MILL.*

Largest possible
grinding capacity
for power used.Grinds corn and cob,
corn and oats, oat hulls,
and all kinds of cereal
feed stuffs to perfection.

Requires Less Than One Minute to Open It.

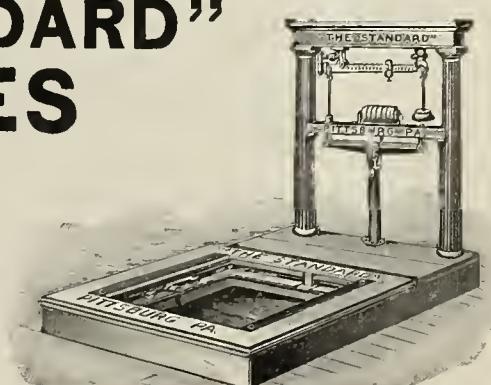
This Monarch of the Grinding World

Will attract customers for you and place you beyond competition in the matter of capacity and expense. No burr stones to be re-dressed. Ball-bearings and self-oiling boxes reduce power, wear and attention required to the minimum. No twist belts necessary with our special drive, which reduces cost of installing.

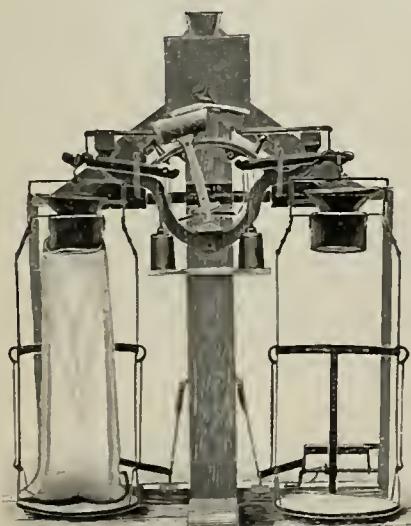
We build a complete line of Attrition and Burr Mills. You can't ask us too many questions about them. Send for catalog.

SPROUT, WALDRON & CO., Muncy, Pa.

"THE STANDARD" SCALES

—FOR—
Grain Elevators, Flour Mills,
AND ALL PURPOSES.Recent Contracts:
Great Northern Ry. Elevator, eighteen
1,600 bu. Hopper Scales.
Baltimore & Ohio Ry. Elevator, ten
1,400 bu. Hopper Scales.THE
Standard Scale & Supply Co.,
Manufacturers, PITTSBURGH, PA.

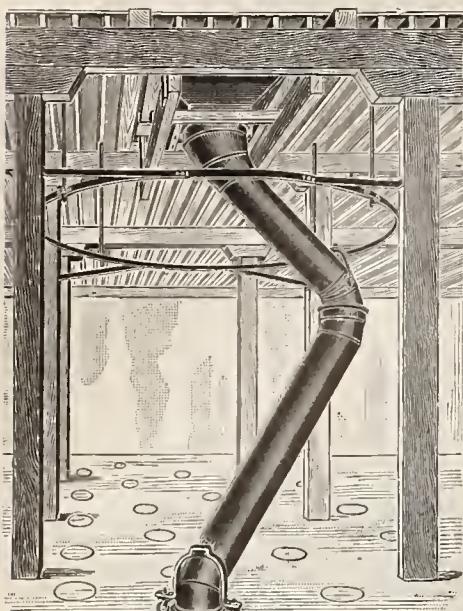
Cutler Bagging Scale

For weighing Grain, Meal,
etc., Automatically, in even
weight packages.Two
Scales in
One Frame

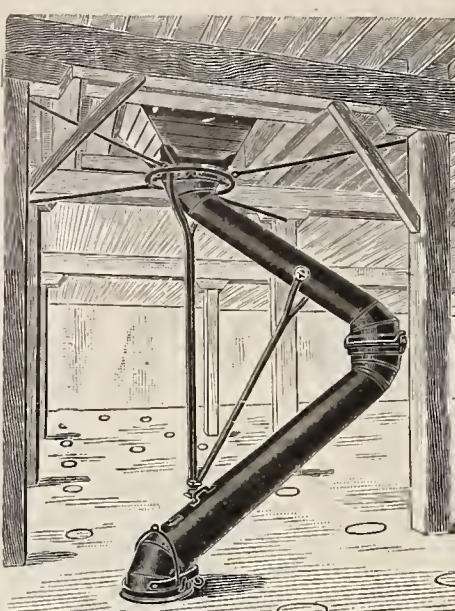
Operated by one man. Accurate, economical

Not an experiment. In successful use 10 years.

THE CUTLER CO., North Wilbraham, Mass.



TROLLEY SPOUT.



STANDARD SPOUT.

D. A. ROBINSON'S Universal Distributing Spouts,

755-765 TEMPLE COURT, MINNEAPOLIS, MINN.

The Adjustable Elevator Dump.



LOW-WHEEL WAGON ON DUMP.

WE claim superiority over all other dumps in giving all wagons enough pitch so that the grain will leave the bed freely, and in letting them down in the dump easily. They occupy less space, and can be placed on all sill dumps now in use without changing trip or pins that sills are hung with. To responsible firms they will be sent on 30 days' time, with freight prepaid. Write us for descriptive circular and price list.

Harvell, Ill., Oct. 20, 1900.
Messrs. SIMS BROS., Paris, Ill.

GENTLEMEN:—Please ship us at once two dump attachments as per enclosed measurements. The one we have on dump works like a charm. Yours truly,
W. W. ADAMS & CO.

Brookston, Ind., Oct. 6, 1900.
Messrs. SIMS BROS., Paris, Ill.

GENTLEMEN:—We have been using the Adjustable Elevator Dumps for several weeks. We are well pleased with their working, and can recommend them to anyone interested in good dumps. Respectfully yours,
JOHN B. ROSS & CO.

SIMS BROS., MANUFACTURERS
AND PATENTEES, PARIS, ILL.

THE HESS SYSTEM OF DRYING.

For Elevators,

Dries tough grain to merchantable condition at a cost of \$1.00 per car or less. The only drier approved and permitted free by Underwriters' Associations. The only machine in successful and general use in the terminal elevators of Chicago and other grain centers.

For Washed Wheat.

Dries and cools, in continuous flow, the grain moving by gravity alone, and drying to absolute uniformity.

Write for Full Information.

Hess Warming and Ventilating Co., 708 Tacoma Building, Chicago.

The Bosworth... Automatic Weighing Scale

FOR WEIGHING AND BAGGING
ALL KINDS OF GRAIN.

Rapid work. Saves time.
Accurate weight. Best investment that can be made.

Write for Circular and Prices.

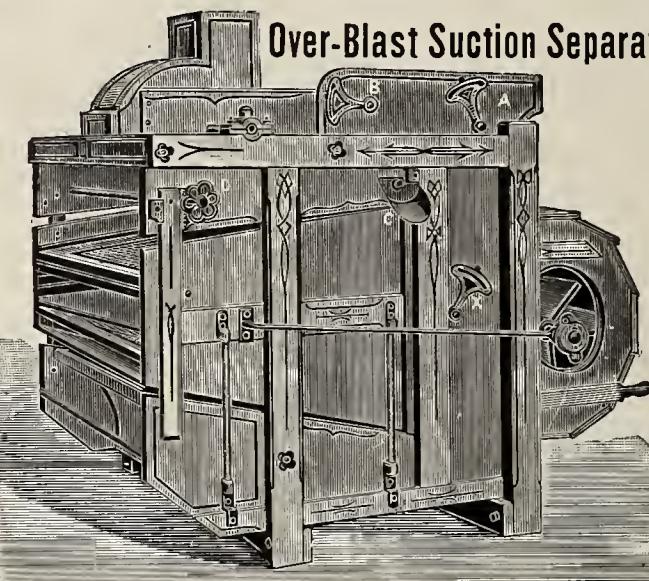
Munson Bros. Co.,
UTICA, N. Y.

THE CELEBRATED A. P. DICKEY GIANT GRAIN CLEANERS.

Over-Blast Suction Separator.

THE
STANDARD
IN THEIR
LINE.

"Grain
Cleaned
to a
Standstill."

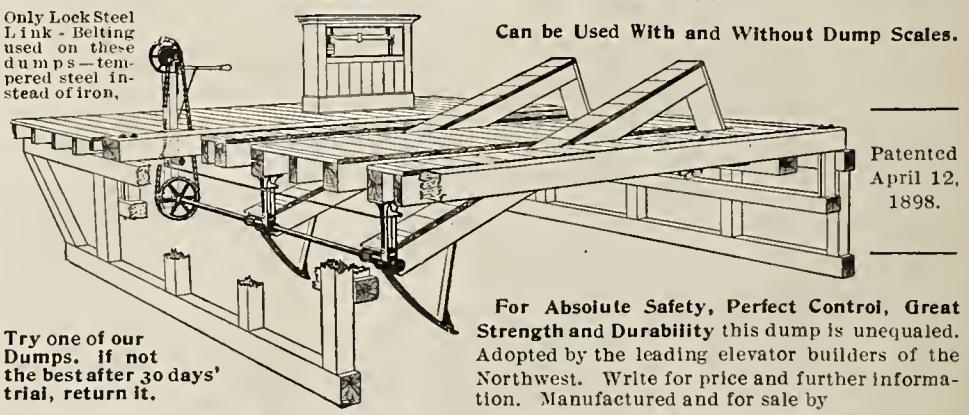


Manufactured in any desired size and pattern, with capacities to accommodate the largest Elevator and Flouring Mills, or small Warehouses for hand use. Single and Double, End and Side Shake, and Dustless Separators, both Under and Over Blast.

Address..... DICKEY MFG. CO., RACINE, WIS.

THE EVANS CONTROLLABLE WAGON DUMP.

THE BEST WAGON DUMP BUILT.



Only Lock Steel Link - Belting used on these dumps—tempered steel instead of iron.

Can be Used With and Without Dump Scales.

Patented
April 12,
1898.

For Absolute Safety, Perfect Control, Great Strength and Durability this dump is unequalled. Adopted by the leading elevator builders of the Northwest. Write for price and further information. Manufactured and for sale by

MOULTON & EVANS,
304 Corn Exchange,
MINNEAPOLIS, MINN.

For Oatmeal Mills,

Dries with fire or steam. Will dry oats with fire heat in thirty minutes, with constant motion by gravity. No contact with hot metal, and popping impossible. Any flavor desired is secured.

For Rice, Cotton-seed, etc.

The quickest and most economical method in use. Applicable to any grain or seed, or anything of granular nature. Uses less power than any other.

Conveying, Elevating and Power-Transmitting Machinery

H. W. CALDWELL & SON CO.

GENERAL MACHINISTS,

Western Avenue, 17th to 18th Streets, Chicago, Ill.

—CALDWELL HELICOID CONVEYOR—

Specialties for
Grain Elevators and Mills.



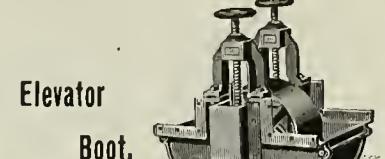
THE ONLY PERFECT SPIRAL CONVEYOR; with Flight of One Continuous Strip of Metal.



LINK BELTING.
SPROCKET WHEELS.
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LEATHER BELTING.
BELT CLAMPS.
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GEARING (all kinds).
GRAIN SCOOPS.
ELEVATOR BOOTS.
COGSWELL MILLS.
HANGERS.
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PILLOW BLOCKS.
IRON PULLEYS.
WOOD PULLEYS.
SHAFTING.
SET COLLARS.
SWIVEL SPOUTS.
TAKE-UP BOXES.
TURN HEAD SPOUTS.
WIRE CLOTH.

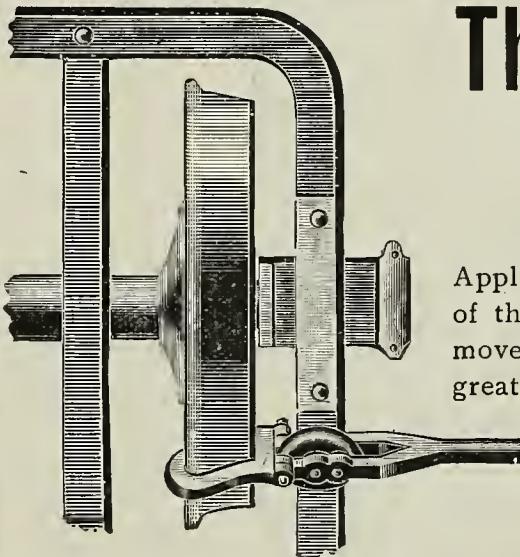


No Trick to Make Money

WITH THE Willford Three-Roller Feed Mill

It takes so little power and attention to operate it, and does such perfect work that feed grinding with it is sure to pay. It is so strong and durable that there is no expense for repairs. Write for circulars and prices.

WILLFORD MANUFACTURING CO.,
303 South 3d Street, MINNEAPOLIS, MINN.



The Special Car Mover

(Patent applied for)

Applies the power in the direct course of the revolution of the wheel. It moves a car with less power and greater speed than any mover on the market. Price \$5, f. o. b. here, and shipped c. o. d. subject to examination before accepting.

THE INCLINE ELEVATOR and DUMP

SOLVES THE PROBLEM OF CRIBBING EAR CORN WITHOUT SHOVELING.

It attracts the most profitable part of the grain business. The Ventilated and Combination Grain Bin is excellent ear corn storage, is rat proof and a tight bin for anything. It requires only $\frac{1}{2}$ foot of lumber per bushel of storage. The reduction in cost of storage compared with even a common, temporary ear corn crib will pay for the Incline Elevator and Dump to fill it.

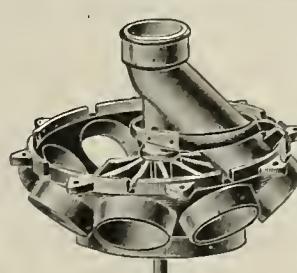
Dealers having belt elevators would profit by adding our ear corn, oats, wheat, etc., storing facilities. Extensive farmers and feeders would also find improvement and profit by adopting it.

Each team elevates the load it brings. Power is always ready and costs you nothing. Will elevate 20 or more of the largest loads per hour.

The Incline Elevator and Dump and plan of building have been greatly improved and are covered by U. S. patents. Write for prices and catalog. Come and see.

The Conveyor Car Loader (patent applied for) loads a car at a speed of 2,000 to 4,000 bushels per hour with corn, wheat, oats, etc., and one-third as much car corn, requiring only one-half horsepower. One-third as much can be loaded by hand power and operator is out of the dust. It can be connected conveniently to any number of shipping bins. Price \$35 f. o. b. here and shipped c. o. d. This includes rope transmission connections to your power and to any number of shipping bin chutes; also a special grain spout to connect chute with loader.

H. KURTZ & SON, SAC CITY, IOWA.



The OLD-FASHIONED FLAIL thrashed grain quite effectually in the early days and cost less than a modern Grain Separator, but who uses it in these days?

The Hall Grain Distributor

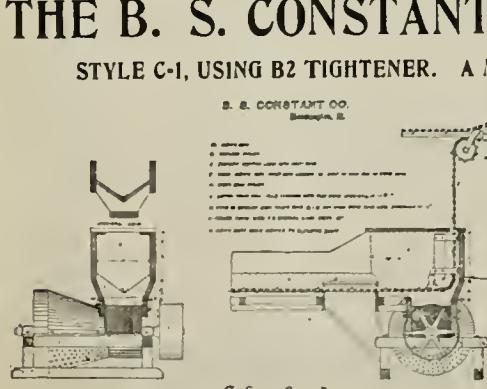
Is far superior (in every respect) to the ordinary, grain-mixing, sloppy spouts, as a modern grain separator is superior to a flail. It does not waste or mix a kernel of grain. Signals the operator on working floor when bin is full. Takes less room than any other device. Locks automatically. Always in the right place. Simple, accurate, positive, durable.

SEND FOR BOOKLET TO

Hall Distributor Co.,

519 First National Bank Bldg.,
OMAHA, NEB.

THE B. S. CONSTANT SHELLER FEEDER,
STYLE C-1, USING B2 TIGHTENER. A MONEY SAVER IN EVERY ELEVATOR.



Latest Improved Grain Separators.
Water-tight Boots, Steel Tanks,
Dust Collectors, Wagon Dumps,
Elevator Boot and Sheller Feeders.

..WRITE..

B. S. CONSTANT CO.,
BLOOMINGTON, ILL.,

Designers of Grain Elevators and Manufacturers of Grain Cleaning and Elevator Machinery

How Does He Do It?

YOU work just as hard, you have just as much honest intent, just as much capital, just as many friends, stand just as well—but the Other Fellow seems to get there.

How does he do it?

Look inside of your business—how about your equipment? Perhaps the “how” lies in the difference between the two of you there. Have you ever thought of that? Monitor Grain Cleaning Machinery has been the key to the “How” in many instances.

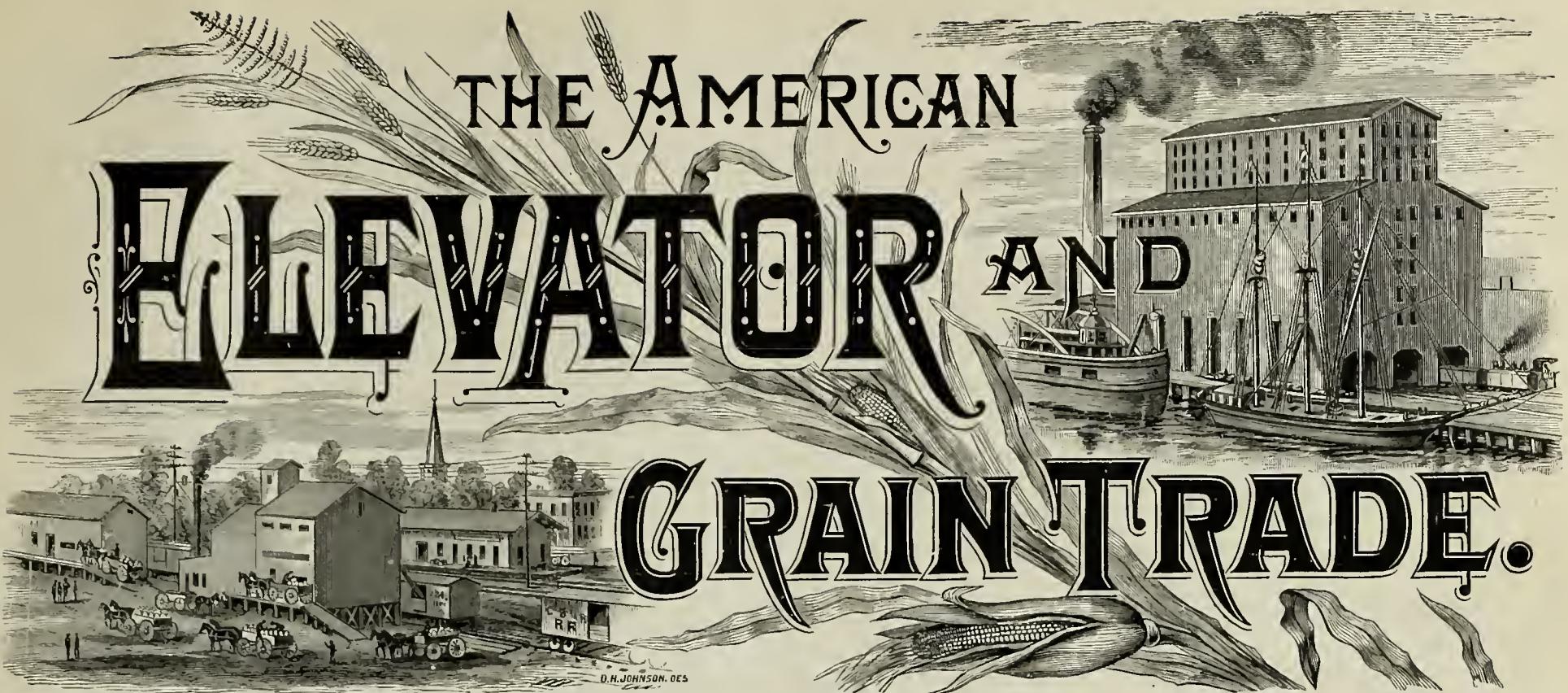
Perhaps it is the key to your problem.

SOME MONITOR MACHINES

Monitor Adjustable Scourer.
 Monitor Double Scourer.
 Cranson Improved Scourer
 Cranson Double Scourer.
 Monitor Receiving Separator
 Monitor Milling Separator.
 Monitor Flour Packer.
 Monitor Warehouse Separator.
 Monitor Oat Clipper.
 Monitor Warehouse Smutter.
 Monitor Corn Cleaner.
 Monitor Corn Scourer.
 Diamond Corn Sheller.
 Diamond Dustless Corn Sheller.
 Silver Creek Hominy Aspirator.
 Monitor Dustless Aspirator.
 Monitor Flax Cleaner.
 Monitor Barley Separator.
 Monitor Barley Scourer.
 Cranson Buckwheat Scourer.
 Cranson Roller Buckwheat Shucker.
 Monitor Scalping and Receiving Shoe.

WRITE US ABOUT IT TO-DAY; TELL US YOUR SIDE OF THE CASE AND LET US ADVISE YOU.

The Huntley Manufacturing Co.,
SILVER CREEK, N. Y.



THE AMERICAN ELEVATOR AND GRAIN TRADE.

A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

PUBLISHED BY
MITCHELL BROS. COMPANY
(INCORPORATED).

VOL. XIX.

CHICAGO, ILLINOIS, JANUARY 15, 1901.

No. 7.

ONE DOLLAR PER ANNUM.
SINGLE COPY, TEN CENTS.

HALLIDAY ELEVATOR COMPANY, CAIRO, ILL.

Cairo, Ill., from its location and artificial advantages, is one of the important gateways into the South and Southeast, especially for the grain of the Central West, which is brought here by the Illinois Central, Big Four, St. L. & S. W., C. & E. I., M. & O. and the St. L., I. M. & S. railways, all of which have termini here, as well as by the Ohio and upper Mississippi rivers. The elevator shown in the accompanying engraving, owned by the Halliday Elevator Company, was built to handle this trade. It is an entirely new house, built by John S. Metcalf Company, engineers and elevator builders of Chicago, replacing an elevator owned by the same company, which was burned. After the fire John S. Metcalf Company was employed to make the plans and specifications for a new house, and obtained the building contract in competition with five other contractors.

The foundation of the elevator and power plant is of brick, resting on piles and grillage, and was put in by the owners. The elevator is a plain and frame structure, the bins being of the usual laminated construction. The dimensions of the building are: Length, 156 feet, of which 48 feet is the working part of the house and 108 feet storage bins; width, 84 feet; height of working part of house, 138 feet, and of the storage part, 88 feet. The storage capacity is 530,000 bushels. The outside of the building is covered with painted corrugated steel while the roofs are of felt, tar and gravel.

The power plant is located at one end of the elevator, and is equipped as follows: A battery of

two O'Brien boilers, each 66 inches by 20 feet, with twenty 6-inch flues; Worthington Duplex Feed Water Pump, and a Stillwell-Bierce latest improved Feed Water Heater. The engine is a St. Louis Corliss of 200 horsepower. The fly-wheel of the engine is grooved for 1½-inch rope, the main transmission being composed of nine ropes.

Along the front of the elevator are two tracks

receiving and two shipping legs, each having a capacity of 8,000 bushels per hour. On the first floor of the elevator is located a heavy geared car-puller, having a drum for a 5/8-inch steel wire cable and heavy track sheaves, so located that cars can be pulled on either track and in either direction.

The elevators discharge into four garners of 1,400 bushels' capacity. Under these garners are four scale hoppers of like capacity, resting on 84,000-pound Fairbanks Scales with recording beams. The elevator heads are supplied with switch valves, so that any one of the four heads is tributary to two scales. The garners are supplied with rotary garner bottoms, hung on one central bearing and being balanced are operated quickly and easily, and having few working parts are not liable to get out of order. The scale hoppers discharge into sheet steel jointed distributing spouts, which distribute the grain to any of the bins in the working part of the elevator, and also to the belt conveyors over the bins of the storage annex. The belt conveyors over the storage bins are two in number and are twenty-six inches wide, concentrated the entire length. Each belt is supplied with a heavy, self-propelling tripper.



ELEVATOR OF THE HALLIDAY ELEVATOR COMPANY AT CAIRO, ILLINOIS.

Designed and built by John S. Metcalf Co.

covered with a large inclosed shed. This shed also contains a sacking floor at the front, equipped with two sacking hoppers and scales for the weighing and sacking of grain for shipment in cars. In the track shed, between the tracks, are also located two carloading spouts with Sandmeyer Loader hanging on a swivel so that bulk grain can be loaded into cars on either of the two tracks. Two large sinks receive the grain unloaded from the cars by means of two pairs of Clark Shovels. There are two re-

There are also two belt conveyors under the storage bins, which are also concentrated and of the same size as the upper belts.

The machinery is all driven by manila rope transmissions, and friction clutches are put in at all drives so that any portion of the machinery can be stopped and started at will. The elevator machinery was furnished by the Webster Manufacturing Co. of Chicago, and is first-class in every respect. Since the completion of the elevator, the own-

ers have installed the Day Dust Collector System so that all dust is burned under the boilers.

The elevator has been in operation since the 10th of September, but has not been run to its full capacity, owing to the scarcity of cars. We quote Mr. Halliday, president of the Halliday Milling Co., as follows: "Our business is handled altogether in the South and Southeast; we buy grain from river points tributary to Cairo; also at points on Cairo's railroads. The city's facilities are exceptionally fine for the handling of grain, and in all the years' experience we have had at this point we have never found the time when it was impossible to compete with the other markets under normal conditions."

THE CONNERS ELEVATOR AT MONTREAL.

It is now just about a year since the Connors syndicate of Buffalo made a contract with the Harbor Commissioners of Montreal to erect a large modern elevator and package freight warehouse in that city on land leased to the syndicate for a long term of years at nominal rental. The elevator was to have been completed in time to handle the crop of 1900. Nothing in the way of building was done, however, until a few weeks ago, when an extension of time was granted and the work of pile-driving began for the elevator.

But during December that work was suspended; and all Montreal is now anxious to know what it means. On December 12, G. T. Smith, representing the syndicate at Montreal, in reply to queries, said that work was suspended because the architects, the Barnett & Record Company, had condemned the piles delivered by the pile contractor as unsuitable for the work, and that work would be resumed in the spring and the elevator completed by August 1. This answer, according to the newspapers of Montreal, was too general in form to be satisfactory, but it did not appear that the commissioners could do anything about it except to wait, and, as one commissioner said, to "realize the fact that we cannot get that elevator before next fall."

It appeared later from an Ottawa telegram that the syndicate has called the Canadian authorities' attention to the alleged fact that the promised 14-foot channel via canal and river to Montreal from the lakes is not existent as agreed, and that at several points in the river below Prescott a vessel drawing not to exceed twelve feet of water cannot pass down, much less one drawing fourteen feet. As the 14-foot channel is part of the Canadian agreement with the syndicate, the latter is loath to put up any more money until such depth of water in the river is assured; certainly it would not undertake to build grain-carrying vessels for a 14-foot channel with the present uncertainty as to the depth of the channel.

It is, therefore, said to be the intention of the minister of railways to load a vessel to 14 feet draft to test the channel practically as soon as the river is clear of ice next spring. Meantime the syndicate elevator is a "hole in the ground."

GALVESTON REDIVIVUS.

The elevator system at Galveston has been restored to normal conditions as existed prior to the great storm. Elevator A has been in working condition for some time, and repairs have been completed on Elevator B, which was expected to be ready for complete operation by January 15.

In addition, the Galveston Wharf Company has ordered a Hess Pneumatic Grain Drier to be erected alongside of Elevator B as soon as possible. This improvement has been found absolutely necessary in order that Galveston may keep in line with New Orleans by affording facilities for conditioning grain arriving in bad order either through the fault of shippers or because damaged en route.

The drier will occupy a space 19x29 feet on the ground and will be 65 feet high. Its drying capacity will be from 7,500 to 15,000 bushels per day according to the condition of the grain.

PHILIP D. ARMOUR.

Philip D. Armour, whose name is the most conspicuous in the grain and packing house circles of the United States, died at his Chicago home on Sunday evening, January 6, surrounded by his family. The direct cause of death was heart disease, from which he had suffered more or less acutely for about two years and from which he had sought relief by frequent trips to the famous baths of Europe. He abandoned business wholly for a time in June, 1899, and it was only a few months ago that he resumed his work, which was again interrupted by a cold contracted during the first snow flurry in November last, when he got his feet wet while giving his grandchildren sled rides on the pavement. About the middle of December pneumonia set in, and, although he recovered from that disease, the heart trouble supervened, resulting in death.

So much has been written of Mr. Armour's career during the past few years, and especially since his death, that to repeat it here, except in the briefest form, would be a superfluous labor. Suffice it to say, he was born at Stockbridge, Madison



PHILIP D. ARMOUR.

County, New York, May 16, 1832, of New England parentage. He received a common school education, and lived on the home farm until the winter of 1852, when he joined a party of neighbors and made the overland trip to California as a gold seeker. In about two years, as a placer miner, he accumulated \$4,000 in gold, with which, as the foundation of his fortune, he returned to his old home. Coming West again, he formed a partnership with Frederick B. Miles in the commission business in Milwaukee, which continued until in 1863, when he joined John Plankinton in the packing business in the same city. From this latter connection there has grown under his management the enormous packing business of the houses of Armour & Co. of Chicago and Omaha and the Armour Packing Company of Kansas City, with their allied industries, lines of refrigerator cars, innumerable branch houses, etc. The Armour grain business began early in the sixties as H. O. Armour & Co. It has always been a prominent factor in the grain trade of the West, but has grown to enormous proportions more particularly during the past eight or ten years, as the Armour Elevator Company, with terminal elevators at Chicago, Milwaukee and Buffalo, with about 20,000,000 bushels' storage capacity, and its branch offices are all great grain buying centers of the West.

The fundamental secret of Mr. Armour's success was his careful watchfulness of all the details of his business, combined with a mercantile genius of the highest order. When his transactions had passed the limits of one man's power to direct their minor details and practical technicalities, he em-

ployed his assistants on the broad principle that "good men are never cheap." He secured the best he could find, paid them liberally, took them into his confidence and relied upon them. Whether they knew it or not they became a part of him—the media through which his marvelous genius for business, his energy and his constructive and executive ability found expression.

In private life, Mr. Armour was strictly a home man. He loved his family and his fireside more than society, and in his children and grandchildren he never tired because in them he renewed his own youth. He loved flowers also, and a good story and a good horse. These, some travel for recreation, and his business made up his life.

He was liberal with his purse when appealed to for aid; but the public work of this nature by which he will be remembered is the noble school known as the Armour Institute of Technology. The splendid plant at Thirty-third Street and Armour Avenue originated in a mission founded by H. O. Armour, which P. D. Armour continued after the brother's death. It had been in existence a number of years, when, as it is related, on a certain Sunday Dr. Gunsaulus, then of Plymouth Church on Michigan Avenue, preached a sermon on what should be done for the youth of the present generation. At its conclusion there was a brief meeting of the two men, outcome of which was that Mr. Armour agreed that if Dr. Gunsaulus would give five years of his time to the work of organization, he would supply the money to establish the school Dr. Gunsaulus had proposed. It is understood that the Institute has already cost Mr. Armour something like \$3,000,000, which probably does not include his gifts to Armour Mission, which is now principally sustained by the rentals of a large number of flats in buildings erected on lands adjoining the Mission and the Institute.

Mr. Armour's estate is estimated at \$50,000,000, of which his widow, his son, J. Ogden Armour, who is now the head of the family and business, and the estate of his younger son, Philip D. Armour Jr., are the heirs. The public funeral took place on January 9 from Armour Mission, at 2 o'clock, Dr. Gunsaulus preaching a sermon; private services were held at the home in the forenoon. The burial was at Graceland and was private.

INCREASE IN LONDON LANDING CHARGES.

Joint notice has been issued by all London steamship lines that beginning January 1, 1901, there would be an increase of landing charges at London. The clause covering such charges on grain for overside delivery, as incorporated in the new bill of lading, is as follows:

"Grain for overside delivery is to be applied for within 24 hours of ship's docking, or thereafter immediately it becomes clear. In the absence of sufficient consignee's craft, with responsible persons in charge, to receive as fast as ship can discharge overside, into lighters during dock working hours, the master or agent may land or discharge into lighters at the risk and expense of the consignee. The shipowner may land or discharge, continually day and (or) night, any grain landed or discharged for ship's convenience during usual dock hours, consignee's craft being duly in attendance, and any grain that may be landed or discharged before or after usual dock hours (whether craft are then in attendance or not) is to be given up free to consignee's craft applying for same within 72 hours from its landing or discharge, otherwise it will be subject to the usual dock charges. An extra freight of 7d. per ton shall be paid to the shipowner on each consignment of grain, whether any portion be landed or not. The grain to be weighed at time of discharge, either on dock or quay at ship's option. Working out charges (including weighing) for grain in bulk and (or) ship's bags to be paid by the consignee with the freight to the ship's agent or to the dock company, if so directed by the ship's agent, in exchange for release, at the rate of 1s. 9d. per ton on wheat, maize and heavy

grain, 1s. 11d. per ton on barley and 2s. per ton on oats. Neither party shall be liable for any interference with the performance of the contract herein contained which is caused by strikes, or lockout of seamen, lightermen or shore laborers, whether partial or otherwise, nor for any consequences of such strikes or lockout, but in such case the shipowner shall be entitled to land or put into craft at the risk and expense of consignee. In case the grain shipped under this bill of lading forms part of a larger bulk, each bill of lading to bear its proportion of shortage and damage, if any."

WASHINGTON INSPECTION REPORT.

The biennial report of State Grain Inspector Geo. P. Wright of Washington was filed December 21 for the two years ended August 1, 1900. The total number of carloads of wheat inspected at the three inspection points—Tacoma, Spokane and Seattle—during the year, from September 1, 1898, to August 1, 1899, was 13,330 cars, approximately 113,330,500 bushels; oats, 379 cars, or about 227,400 bushels; barley, 401 cars, or about 240,600 bushels; rye, 7 cars, or about 5,600 bushels.

For the year beginning September 1, 1899, and ending August 31, 1900, the total number of carloads of wheat inspected at the three inspection points was 13,440 carloads, or approximately 114,466,000 bushels; oats, 710 cars, or about 426,000 bushels; barley, 602 cars, or about 361,200 bushels; rye, 11 cars, or about 8,800 bushels, making a total for the two years of 27,880 cars of grain.

He notes that the average size of the carload of wheat has increased from about 700 bushels four years ago to about 1,000 bushels now. This increase in the quantity of grain has practically lowered the inspection fee per car, so that for the two years there has been a small deficit, the receipts of the office having been \$20,193.45, and the expenses \$21,457.08, leaving a deficit of \$1,263.61.

He notes also a steady increase of the wheat-growing territory of the state, especially in Yakima, Adams, Lincoln and Douglas counties of Washington, and in some smaller portions of Oregon and Idaho, which are tributary to Puget Sound ports.

The grade of the grain handled has been high, 20 per cent of the crop of 1900 grading "choice milling," a grade above No. 1, while the greater part of the balance will grade No. 1, while but little will fall below No. 2. The lower grades can be raised by cleaning.

The inspector will recommend to the Legislature that provision be made for securing and compiling frequent crop reports during the growing season. He believes that this can be done with but slight expense, just enough to cover postage on the reports which he will endeavor to have farmers and others send in free, and for the printing of blanks and the salary of one person whose duty it shall be to attend to the correspondence and compile the reports.

The inspector protests against the present duty on imported jute bags. He says that this duty is a burden upon the grain growers of his state and the Coast. Of the total number of jute bags used in the United States, Mr. Wright claims that 72,000,000 are used by the farmers on the Pacific Coast and but little over 3,000,000 in other sections of the country. The result of this is that, of the total importation of jute bags into the United States, the Pacific Coast states have to pay 96 per cent of the duty and all other states but 4 per cent. There are at present but two mills manufacturing bags from jute on the Pacific Coast, and they are operated by prison labor, being the state penitentiary mill at Walla Walla and the mill at the California state penitentiary.

Minnesota is credited with a production of 33 bushels of corn to the acre planted, against 38 bushels in Iowa and 37 bushels in Illinois, while Wisconsin heads the western list with 40, beating her record for eleven years. Illinois' record for eleven years is 35 bushels, the best in the corn belt.

THE BREAK IN THE PEAVEY CONCRETE ELEVATOR AT DULUTH.

BY D. G. DOUBLEDAY.

"Things are not always what they seem." Thus it was with the great Peavey concrete elevator at Duluth, the walls of which gave way on December 7 and spilled several thousand bushels of grain on the ice. The walls of two of the outside bins were shoved right out by the pressure of the wheat just as if they were made of eggshells. The accident was probably caused by filling the inside bin with 56,000 bushels of wheat and not filling the two bins that collapsed. This made an immense pressure, all one way, and the result was that the walls of the middle bin gave way. The wheat came into the other bins with a rush and it took one solid chunk of wall out of the two bins, which did not break until it fell. It will easily be seen that the pressure must have been enormous. Several thousand bushels of wheat were spilled



VIEW SHOWING DETAILS OF THE BREAK.

on the ice but it was cleaned up with practically no loss.

The elevator had been built in a very short time—less than ninety days intervening between the time the first material was laid and the time that the roof was put on. Many experts say that the cause of the break is the fact that the bins were filled before the concrete had had time to fully set.

The hole in the bins is now all boarded up. It is an immense one, being about sixty feet high and about thirty-five feet wide at the widest point. The wrecked elevator is a sight well worth seeing, the ground in the vicinity being strewn with blocks of concrete of all sizes and shapes.

The walls of the bins were bound with iron bands three-eighths of an inch thick and three-fourths of an inch wide. These bands ran entirely through the walls and were about ten inches apart. They were broken into hundreds of pieces and bent and twisted into all shapes. At the present time big chunks of concrete are hanging from the edges of the wall with no support but one of these small iron bands. A person going into the bins now and seeing these big chunks hanging there would naturally think that there was danger of their falling. The workmen, however, state that nothing to speak of has fallen. In fact, they say that all that has fallen since the time of the accident could be picked up in a hat.

This accident to the elevator was a great disappointment to Mr. Peavey and his associates, also

to the contractor, C. F. Haglin. This is the first and only concrete elevator in the Western Hemisphere and is many times larger than any other similar elevator in the world. There are smaller concrete elevators on the lower Danube, but none of them are built as strongly as the Peavey elevator nor are they anywhere near the size of this one. This was therefore an experiment and a very expensive one. The originators of the plan had no idea but that it would stand any strain that might be imposed upon it. That the first time that a bin was filled to have a good share of the walls of two of the bins go "bust" has been a greater disappointment to all concerned than most people imagine.

Mr. Peavey and the other interested parties think that this accident is no proof that the plan of construction is at fault. There is a number of things which may have caused the accident, but all think that it was some flaw in the construction. A. L. Searles, manager of the Peavey interests at the head of the lakes, was in Duluth the night of the accident, and he stated that the cause was merely local and not due to the style of construction as many people had supposed. He said that the use of concrete for this purpose had been thoroughly tested long before this elevator was started.

As soon in the spring as the weather will permit the break will be repaired. In the meantime, the other bins are being filled up with wheat, but now they are being filled all at once. There are fifteen of these bins and it had been intended to build fifteen more next year, but it is not likely that they will be built as soon as planned, at least not until the present bins have been thoroughly tested.

This house was a new departure in America in elevator construction, and has been watched with interest by elevator men all over the country. The idea was gained from similar elevators on the lower Danube, although this one differs much from those. There are fifteen bins holding about 1,500,000 bushels. Each bin is 104 feet high and 36 feet 6 inches in diameter. They are all operated from the main house, which is simply an ordinary working elevator. This holds about 1,500,000 bushels, giving the system as it is at present a capacity of about 3,000,000 bushels, or, when completed, about 4,500,000 bushels.

The chief object in building this elevator was to avoid the payment of insurance. In an ordinary wood elevator the rate of insurance is from two to three per cent. Thus, when there are 3,000,000 bushels of grain in store, such as the completed concrete system will hold, and the house itself costs from twenty-five to thirty cents per bushel of capacity for insurance, any scheme that would save all of that amount was worth trying. And as bankers had agreed to loan on the new structure without any insurance, that was a great point gained. But since this break there will probably be considerable delay in similar construction, at least until all are certain that the accident was due to some local cause and not a fault of the plan of construction.

The cut here given shows the break very clearly. Indeed, it could hardly be improved upon. It shows the pieces of concrete hanging by the iron bands, as if by threads. The pile of debris is shown, and the grain which ran out. The wall also of the inside bin, forming the rear of the bin which broke, is shown, together with the small iron ladder reaching clear to the top.

NEW ELEVATOR AT PORTLAND, MAINE.

Geo. B. Reeve, general manager of the Grand Trunk Railway, announces that the company's wharves and improvements at Portland, Me., will be constructed during the coming building season. These improvements include the erection of another terminal elevator adjacent to the wharves to facilitate the handling of export grain, for which work the present elevator of the company at Portland has been found entirely inadequate, in view of the large recent increase of the railway's grain business at this port.

THE CEREAL CLUB.

The Cereal Club of Des Moines, Iowa, is about to have erected for its use an exclusive building to be the home of the grain men of Des Moines, all of whom are members of the Cereal Club. The building will probably be five stories high. Such was the announcement made at a meeting of the club held on December 18, when Capt. M. T. Russell, president of the Club, reported two offers of sites to the Club. He also said, referring to the importance of the club to Des Moines:

"For the information of all that care to know, the Cereal Club has collected the total in bushels of wheat, corn, oats, rye, barley and flaxseed handled by the legitimate dealers engaged in the business in Des Moines. Nine firms or individuals known to the trade as line houses have their headquarters located in Des Moines and operate their houses from here. These firms combined own and operate 143 country elevators, and they do their banking here. In addition to these, there are twenty-one track buyers located here. These represent all the principal markets in the United States East and South. These firms daily put out track bids from here that reach every railroad station in Iowa. Not all the grain bought here comes through Des Moines; but Des Moines is the clearing house for all of these transactions, making a grand total of 60,000,000 bushels of grain handled by dealers living and doing business here. To this should be added the amount manufactured by our own mills, and dealers representing mills not located in Des Moines, but having agents here. The figures given have been carefully compiled by the members of the Cereal Club and taken from the books of the firms doing business in Des Moines, and are as near correct as can be collected. These figures represent all cereals, wheat, corn, oats, rye, barley and flaxseed; other seeds have not been taken into this account."

ANOTHER GRAIN ELEVATOR AT SOUTH CHICAGO.

Nye, Jenks & Co. of Duluth and the Nye & Schneider Company of Fremont, Neb., operating as the Rialto Elevator Company of Chicago, have purchased from the Drexel estate a strip of land in South Chicago, containing a fraction less than five acres, as a site for a grain elevator. The land lies on the west side of the Calumet River and south of One Hundred and Sixth Street and cost \$90,000. It has a frontage of 850 feet on the slip and a width of 241 feet. The consideration includes the docking of the slip, and this work is now in progress, the slip having already been cut and dredged.

The contract for the elevator has been let to the Macdonald Engineering Company, which will use its newly patented form of fireproof steel bin construction. The storage capacity will be 1,250,000 bushels contained in 182 separate bins. It will be the first elevator of this type constructed in Chicago. There will be ten elevator legs of 1,200 bushels' capacity per hour each, and the house will be equipped with a full line of cleaning and clipping machinery. The foundations will be put in during the winter and the house completed by August 1st next. The cost will be \$400,000; the intention is to complete the house by August 1st next.

Nye, Jenks & Co. now operate the Itasca Elevator at Duluth and others at Washburn, Minn., and Milwaukee, Wis., while the Nye & Schneider Company has a number of branch houses in the West with headquarters at Fremont, Neb.

This addition to South Chicago's list of elevators again draws attention to that part of Chicago, whose unexcelled railroad facilities and lake shipping advantages combine to make it outstrip all other localities in the West in this particular line of business. Since 1899 the following elevators have been erected at this point: Calumet Elevator Company, Elevator "C," with a capacity of 1,400,000 bushels; the Merritt Elevator "A," capacity of 600,000 bushels; McReynolds Elevator "A," capacity of 1,500,000 bushels; Calumet Grain and Elevator Company's Elevator "C," which has but recently been completed, has a capacity of 350,000 bushels, and the B. & O. R. R. Co.'s new house, in course of con-

struction at the present time, will have a storage capacity of 500,000 bushels.

In addition to the above the following houses were previously located here: Peavey Elevator "A," storage capacity of 650,000 bushels, and Elevator "B" with a capacity of 1,700,000 bushels; Calumet Elevator Company's Elevator "A," capacity of 1,000,000 bushels, and "B" with a capacity of 1,000,000 bushels; South Chicago Elevator Company's Elevator "C" and "C" Annex, with capacity of 3,000,000 bushels, and "D" with a capacity of 1,500,000 bushels; Calumet Grain and Elevator Company's elevators "A" and "B" with capacity of 2,000,000 bushels; the Oxford Elevator, formerly known as Fox & Bowerman's Elevator, with a capacity of 125,000 bushels.

The malting interests are also well represented, the Columbia Malting Company, the L. I. Aaron and the Albert Schwill plants being located in this neighborhood.

JAKWAY & MURRAY.

Newton County, Ind., is located on the eastern, or Indiana, side of that rich corn belt of which Iroquois and Livingston counties in Illinois are

MINNESOTA INSPECTION.

The annual report of Chief Grain Inspector Reishus of Minnesota has been submitted to the governor of that state. The report covers the crop year ended August 31 (crop of 1899): The amount of grain inspected "on arrival" at the four terminal points, St. Paul, Minneapolis, Duluth and St. Cloud, was as follows: Wheat, 165,573 ears; corn, 10,967; oats, 8,564; rye, 1,850; barley, 7,277; flaxseed, 17,063 ears; making a total of 211,294 carloads of all kinds. For previous years the total number of ears received was 279,112, crop of 1898; 219,741, crop of 1897; 214,984, crop of 1896, and 250,805, crop of 1895.

There was inspected "out of store" for the same period as follows: Spring and winter wheat, 46,326 ears, and 40,033,629 bushels into vessels; coarse grain (including corn, oats, rye and barley), 6,995 ears and 6,685,166 bushels into vessels; flaxseed, 2,987 ears and 8,373,268 bushels into vessels.

Of the 200,949 carloads of spring wheat inspected "into" and "out of" store, 26,711 ears were held out for reinspection, resulting as follows: In 15,485 cases the original grade and dockage were confirmed; grades were raised in 8,044 cases, lowered



JAKWAY & MURRAY'S ELEVATOR AT GOODLAND, IND.

part. Although thirty-five years ago much of this tract was deemed too flat and wet to be worth much, drainage, natural and artificial, has worked a miracle, and many fine farms are to-day owned by men or their sons, who thirty years ago sold their homestead farms in the rich Illinois valley to take these then cheaper prairie lands of Iroquois and Newton counties, which the wiser heads knew would soon dry out and prove immensely productive.

This country naturally has now its quota of fine grain elevators, like the one shown in the engraving, owned by Jakway & Murray, at Goodland, in the southeast corner of Newton County. The permanent character of houses like this one is the best testimony to the practically unfailing regularity with which this county produces abundant crops.

The house before us is located on the line of the P. C. C. & St. L., or Panhandle, Railway, and is accessible to the C. & E. I. Its capacity is 35,000 bushels, and it is equipped with modern machinery throughout, which is operated by a 30-horsepower steam engine.

Clover seed receipts at Toledo in December were the smallest for that month in many years, says King & Co., having been only about 5,000 bags, against 10,300 bags in 1899 and an average of over 11,000 bags for the four years previous to 1900. Shipments were proportionally small—only 3,700 bags.

in 574 and in 2,608 cases the dockage was changed. Appeals to the board of grain appeals were made in 3,818 cases, in 1,675 of which the decisions of the chief deputies were changed and in 2,143 cases confirmed.

The number of cars arriving at the terminal points found in what might be termed "bad order" were 3,188 cars out of a total of 211,294. Of these 1,161 were found not sealed; 325 seals broken; 6 seals without number; 447 with open end or side doors; 139 leaky grain doors; 24 no side doors; 12 leaky at center pin; 55 leaky end; 618 doors not fastened; 16 leaky roof; 360 leaky at side of car, or otherwise in bad order; 25 broken open.

Of the 163,824 cars of spring wheat inspected "on arrival" at the terminal points during the year, 33,946 were docked one-half pound per bushel, 69,566 one pound, 3,218 one and one-half pounds, 15,574 two pounds, 4,675 two and one-half pounds, 2,744 three pounds, 2,901 over three and 1,200 ears without dockage. The net average dockage on total receipts at all points was 19.7 ounces per bushel, as against 26.3 ounces per bushel the previous year.

The cash receipts of the office were \$218,307.57, an increase of \$29,381.27, and the disbursements, \$221,425.77, or \$3,118.20 in excess of the receipts, the deficit being paid out of the surplus of previous years. The amount of revenue derived from the several sources was as follows: Inspection and weighing service, \$214,512.83; interest on deposit in

state treasury, \$374.04; country elevator license, \$1,375; sale of grain samples, \$1,677.36; collections from old accounts, \$395.34.

The inspector supplements the statistical portion of his report by a defense of his administration. "It is significant," he says, "that the complaints against the department during the past year have come from a political source only and from two or three daily organs whose part in the past has been to defend questionable practices against the rightful protests of the producing and shipping public. It is a matter of congratulation to the department that these complaints of political organs have not received the support either of the producers and shippers or of the legitimate grain trade. From the latter, as from the former, the department has received many commendations for fairness and efficiency of inspection."

He attacks the practice of the office under his predecessor, to inspect against the producer until the character of the crop had established itself, a rule which, Mr. Reishus says, acted as a hardship upon the farmer. He declares he can see no reason for this; nor in rejecting his predecessor's theory has the grade of Minnesota wheat been lowered; for, he says, "under the liberal grades of the year Minnesota wheat has been sought by millers the world over, and during most of the crop year has been at a premium in the New York and Liverpool markets. In place of apprehension, our No. 1 Northern has met with a market quotation from 1 to 5 cents a bushel higher than the corresponding contract grades from other sections. It stands at this hour in Liverpool at a high premium over the corresponding contract winter grade, No. 2 Red winter, as likewise it has stood during most of the past crop year. If anyone is to be given the benefit of the doubt in regard to the proper grade of Minnesota wheat it should be the farmer, who toils to produce it, and not some middleman who buys it as No. 2 and sells it as No. 1."

The inspector concludes by saying that under his administration the following results have been achieved:

"First—Uniformity in the grading of grain; the practice of giving lower and more rigid grades early in the season than later, as charged against the department by the last Legislature and defended by my predecessor, having been discontinued.

"Second—The grade has been based solely on the character of the grain, without regard to market fluctuations or the demand of special interests.

"Third—The producer has received the full and just grade which his grain has merited—the same grade as that received by the dealer for export or for domestic milling.

"Fourth—There has been no favoritism among dealers and no partiality between dealer and producer—one grade for all, without fear or favor.

"Fifth—Economy in the cost of inspection and accuracy in the weighing.

"Sixth—Minnesota grades have been maintained at a higher comparative standing in the markets of the world, as shown by the cash quotations at Liverpool, than ever before."

Local dealers naturally do not offer much criticism of the report, but it seems to be the general opinion that the standard grades of wheat have deteriorated to some extent during the past two seasons.

A new governor has been inaugurated, and it is to be expected that the head of the department at least will be changed and the "clean sweep" under Governor Lind will be imitated by his successor.

BEANS ARE SCARCE.

At the present rate "pork and" is going to be a luxury rather than the staple vegetable of the economical feeders at the noonday lunch. Delay in marketing the crop, coupled with heavy purchases for the army in the Philippines, has forced the price of this humble vegetable to the very unusual price of about \$2.50 per bushel in the retail market. Abroad the markets are bare of good beans and the price correspondingly high.

The cause of the shortage is charged to the Michigan farmers, who have been very slow in marketing

a crop said to be the best in the history of the state. In other sections, however, the crop is conceded to be short.

B. A. LOCKWOOD.

B. A. Lockwood, head of the B. A. Lockwood Grain Company of Des Moines, Iowa, is one of the most prominent grain dealers in that extensive market. His company has its stations in a large number of Iowa towns, whose operations are all directed from the main office at Des Moines.

Mr. Lockwood is a native of West Virginia, but spent the greater part of his early life in Eastern Ohio, where his father was engaged in merchandising and the milling business. The father, however, died while Mr. Lockwood was but a boy. In 1869 he went to Des Moines, then a metropolis in promise only, where he was first employed in the United States Land Office under Hon. J. A. Elliott. Later he became connected with the Citizens' National Bank, of Des Moines, of which he is still a director, although he retired from participation in its management otherwise in 1879. He then went into the grain business, with which he has been connected continuously since. He has, however, operated also in coal, as the Lockwood



B. A. LOCKWOOD.

Coal & Mining Company, and is interested in others of Des Moines' representative business enterprises. As a business man he has the confidence and respect of Des Moines' financiers and of her people as well, who recognize in him one of the builders of a city rapidly approaching the magnitude of a metropolis.

Mr. Lockwood's election to be president of the Grain Dealers' National Association at the recent annual meeting of that association was a consistent advancement in honors of a man who has been identified with that organization since its inception, and who is furthermore one of the more conspicuous men in association work in Iowa. Having taken a leading part in the organization of the Iowa Cereal Club of Des Moines, he was equally conspicuous as a promoter of the Iowa Grain Dealers' Association, of which he was elected president at its first meeting. He declined to accept, however, owing to his business engagements, but he has notwithstanding given not a little of his time and attention to its work, by attending its district meetings and assisting its official staff by his counsel.

As president of the National Association, he will be energetic and untiring, he is "built that way," and so far as in his power lies, he will assuredly make that Association as useful to its members as its imperfect machinery and limited resources will allow.

The official weight of new ear corn was changed on January 1 at Cincinnati, according to custom, from 70 to 68 pounds.

ROCK ISLAND DEALERS MEET.

The Illinois Valley Grain Dealers' Association met in the parlors of the Harrison House at La Salle on the afternoon of December 27.

President J. F. Kilduff, La Salle, called the meeting to order at 2 p. m.

Secretary Geo. C. Dunaway, Utica, read the minutes of the meeting held December 11, after which the following made application for membership in the Association: F. J. Delaney, representing, Nash-Wright Co., Chicago; John Martin Jr., Ladd; A. Reinhardt, Spring Valley; M. Kenny, Ottawa; H. G. Smith, Triumph; Peter Eshbach, Leonore; W. E. Kreider, Tonica; Ream & Kelso, Lostant; J. J. Mattern, Tonica.

After a general discussion of the scoop-shovel problem, a recess of fifteen minutes was taken to allow dealers having about the same local freight rates to discuss conditions in their territory.

On coming to order again the question of storing of grain for farmers was considered by the members.

G. A. White moved that the members of the Association give free storage for 30 days, after which they should charge $\frac{1}{2}$ cent per bushel per month or fraction thereof. The motion prevailed.

B. F. Walter read the following resolution:

Whereas, The grain business originating in the state furnishes a large part of the traffic for the railroads; and,

Whereas, The moving, inspecting and warehousing of this grain is under the direct control of the Railroad and Warehouse Commission; therefore, be it

Resolved, That Governor-elect Yates be respectfully petitioned to appoint as a member of said Railroad and Warehouse Commission a representative country grain dealer who is familiar with the details of the grain business at primary points.

O. T. Wilson moved the adoption of the resolution, and that a copy be sent to the governor-elect. Carried.

Mr. Walter spoke upon the value to dealers of joining the State Association, and the majority of the dealers present made application for membership in that body.

F. M. Shaw moved that a sufficient number of copies of the constitution and by-laws be printed and a copy be sent to each member of the Association; also, that a circular letter inviting them to join the Association be sent to every dealer throughout the neighboring territory. The motion prevailed.

An adjournment was taken until 7 p. m., and at the evening session the question of storing grain for farmers was again taken up in a general discussion. It was moved to reconsider the action taken in the afternoon, and on motion of William Hershey, seconded by W. E. Kreider, the Association decided that after February 1, 1901, it would discontinue the practice of storing grain for farmers. It was felt that a benefit would be conferred on the farmer by discontinuing the practice of storing, and that the action taken would best serve the interest of dealer and farmer alike.

The Association also discussed the question of loaning money to farmers; and it was the prevailing opinion that that class of business should be turned over to the banker, as it seemed this practice encroached upon his business.

The meeting adjourned, to convene at the Harrison House, La Salle, on the evening of January 31.

The following were among those in attendance: J. F. Kilduff, La Salle; O. T. Wilson, Morris; J. A. Jamieson, Marseilles; M. Kenny, Ottawa; Ed. Bartney, Seneca; H. G. Smith, Triumph; C. E. Douglas, Marseilles; J. W. Radford, representing Pope & Eckhardt Co., Chicago; F. M. Shaw, Ladd; G. A. White, of Churchill-White Grain Co., Chicago; Geo. C. Dunaway, Utica; H. J. Ruckriegel, Ottawa; R. T. Harrington, representing Calumet Grain & Elevator Co., Chicago; F. J. Delaney, representing the Nash-Wright Co., Chicago; John Martin, Ladd; A. Reinhardt, Spring Valley; Peter Eshbach, Leonore; Joe Farrell, Peru; R. Unsicker, Peru; William Hershey, Spring Valley; W. E. Kreider, Tonica; Ream & Kelso, Lostant; J. J. Mattern, Tonica. The "American Elevator and Grain Trade" was represented by John E. Bacon.

NO DOUBLE INSPECTION IN MINNESOTA.

The attorney-general of Minnesota on December 13 rendered an opinion which has settled an annoying question in that state as to the effect in the other market of the rulings of the inspection boards of appeal at either Minneapolis or Duluth. The hypothetical questions put were the following:

"If a car of grain inspected, reinspected and appealed at Minneapolis, is shipped to Duluth, is the grade thus fixed at Minneapolis by the board of appeals at Minneapolis on said grain final?"

"If the Minneapolis inspection and appeal is final, is the Duluth inspection department authorized to demand a sealed record of such car in order to prove its identity, and in case such sealed record does not accompany the notice of such Minneapolis grade, will in such case the Duluth inspection and board of appeals be justified in placing a different grade on such grain, when, in their judgment, the quality thereof warrants it?"

The attorney-general decided that the grade fixed by the board of appeals in Minneapolis would be final; that is, that one inspection is sufficient, whether made at Minneapolis or at Duluth. He also says that there is no provision by law for sealing or furnishing of a sealed record.

CANADIAN ELEVATORS BUILT IN 1900.

The Ogilvie Milling Co. leads in the number of new elevators erected during 1900, says the Winnipeg Commercial, with twelve new ones, having a capacity of 25,000 to 30,000 bushels each. These are located at the following points: On the Southwestern railway branch, one each at Starbuck, Elm Creek, Rathwell and Treherne; on the Pembina branch, at La Salle and McTavish, both being between Winnipeg and Morris; on the Souris branch, at Pierson and Carievale; on the Northwest Central, at Crandell; on the Canadian Pacific Railway main line, at Rosser, Poplar Point and Melbourne. It is regarded as significant that no less than seven out of the dozen are situated at points within about 40 miles of Winnipeg. This indicates the progress that is being made in the Red River Valley section of Manitoba.

The Lake of the Woods Milling Company has built this year a total of four houses of 30,000 bushels' capacity each. These elevators have dump scales and they are located at Rosthern, on the Prince Albert branch; Killarney, on the Deloraine line; Wapella, on the Canadian Pacific Railway main line, and Miniota, on the Northwest Central.

The Northern Elevator Co. of Winnipeg stands next after the Ogilvie Milling Co. in the number of elevators erected this season, with six houses: Two of 30,000 bushels' capacity each, at Margaret and Fairfax, on the Belmont extension of the Northern Pacific Railway in Manitoba; a 25,000-bushel elevator at Birtle, on the Northwestern line, where the company formerly had a flat warehouse; a 30,000-bushel house at High Bluff, on the Canadian Pacific Railway main line, where the company formerly had a small steam elevator; two others of 30,000 bushels' capacity each at Treherne, on the Southwestern and Hargrave, on the Canadian Pacific Railway main line, in Manitoba.

The Winnipeg Elevator Co. has put in three new houses this season of 25,000 bushels each. These are located at Holmfield and Killarney, on the Deloraine line, and at Beaver, on the Northern Pacific extension west of Portage la Prairie. The elevator at Killarney replaced one burned.

Baker & Reid, grain merchants, Winnipeg, have erected three elevators this season of 25,000 bushels capacity each, two at Pilot Butte and at Craven, in the Regina district, and one at Caron, west of Moose Jaw, on the main line. The last named house is the most westerly elevator on the line in Assiniboia territory, and is situated near the western border of the wheat belt.

The following elevators have been built by country grain dealers: Chas. Hall of Alexander, Man.,

one at Crandell; G. B. Murphy of Carberry, Man., associated with Mr. Forsyth, one at High Bluff; the Canada Northern Company, one at Gilbert Plains, on the new branch west from Dauphin; the Calgary Milling Co., one at Wetaskiwin, Alberta, on the Edmonton branch; E. A. Holmes, one at Hargrave, Man., and Malcolm Orr, one at Glenboro, Man. The last two were to replace houses that had been burned. At Moose Jaw, D. McLean has built a 50,000-bushel elevator, in connection with the new flour mill, which he is establishing at that place. At Yorkton, J. J. Smith built a 40,000-bushel house in connection with the new flour mill established at that place, both plants having since been sold to Levi Beck.

Besides the new elevators above enumerated, a number of flat warehouses were built for receiving grain at country points.

BELT ELEVATOR AND WAREHOUSE, E. ST. LOUIS.

The Belt Elevator and Warehouse at East St. Louis, Ill., owned and operated by P. P. Williams Grain Company of St. Louis, Mo., is one of the few grain elevators of the St. Louis terminal that has not suffered from declining business, or, rather, from the intermittent activity and stagnation which has been the fate of several St. Louis elevators. Built in 1896 by J. C. Stewart & Co., it began oper-

THE RIORDAN CASE.

The interminable quotations question at Chicago took a new form on December 11, when Frank D. Riordan obtained a temporary injunction restraining the telegraph companies from cutting off his quotations. Mr. Riordan had been charged by the Board of Trade with "unmercantile conduct," in having had relations with the Central Grain and Stock Exchange, which the Board of Trade calls and treats as a bucket-shop; and he was served with notice that he would be heard in the future on such charge by the directory of the Board of Trade.

In addition to securing the temporary injunction, Mr. Riordan charged conspiracy on the part of the officers of the Board to deprive him of his membership in retaliation for his opposition to the plans of the Warren administration for the distribution of the quotations. He also alleged that the Cleveland Telegraph Company is owned by members of the Board, especially naming in his petition for injunction, President Warren and Attorney Robbins as likely to have profited largely in case that company's property had been sold to the old companies, as proposed some time ago, after exchanges generally refused to join Chicago in making a contract for quotations with the Cleveland company. Mr. Riordan further alleged that the Board is "after him" simply because, as he says, "I am friendly to my old employers." the Western Union Tele-



P. P. WILLIAMS GRAIN CO.'S, ELEVATOR AT EAST ST. LOUIS, ILL.

ations in February, 1897, and has been daily at work ever since.

The elevator was built as a 150,000-bushel house, with a warehouse for sacking grain, in fact, as a general warehouse for a shipping business to the South and Southeast. The dimensions are 90x120 feet, and there is an elegant basement for heavy storage. The warehouse is equipped for a general storage business as well as having scales and trucks for weighing and handling sacked grain. The elevator has two legs with elevating capacity of 5,500 bushels per hour. There are twenty-six overhead cribbed bins, also two inside Fairbanks Hopper Scales, No. 10 Eclipse Oat Clipper, Bird Grain Cleaner, and in fact, all necessary machinery for handling and cleaning grain, so arranged that anyone or all parts may be operated simultaneously as desired. There is also a private electric lighting plant of 200 lights. The power is a 75-horsepower motor and 54-horsepower Fairbanks-Morse Gasoline Engine. The entire body of the building is covered with galvanized iron, which protects it from heavy rains, and there is a fine system of fire-fighting apparatus, making altogether one of the most complete plants of its size in the country.

The building is located about 200 yards north of the bridge on the bank of the Mississippi River in East St. Louis. This site enables the company to load barges, which is frequently done, while the track location, on the Wiggins or Belt Railroad, gives direct access to all roads entering either St. Louis or East St. Louis.

The company handles a general line of grain, both as receivers and as shippers and is doing a fine business.

graph Company, of which prior to 1899 he was for ten years auditor.

The charge made against President Warren, of course, touched that gentleman's honor, and he at once demanded a committee of investigation. The vice-president thereupon appointed J. H. Dwight, C. L. Raymond, P. B. Weare, B. A. Eckardt, Z. R. Carter, W. T. Baker and John W. Conley, as such committee, who, on December 30, reported that "none of the officers of the Board, nor its attorney, is found to have, or to have had, any personal or financial interest whatsoever in the Cleveland Telegraph Company, or its stock, or in any arrangement that has been made or now exists between the Board of Trade of the City of Chicago and the Cleveland Telegraph Company; furthermore, your committee begs to state that it approves of everything that has been done on the part of the president and other officers of this Board to bring about the existing relations between the Board of Trade of the City of Chicago and the Cleveland Telegraph Company, and that the permanent continuance of such relations will be to the best interest of the Board."

The case against Mr. Riordan will probably not be called until certain collateral cases previously begun are carried to a final decision in the courts; but it is an important one for all that, since it will be a test of the Board's right to indicate the character of the clients for whom its members may do business.

While wheat may not have been wholly a success in South Dakota in 1900, the corn crop of that state was the best in quality it ever had.

F. P. RUSH SELLS OUT.

The Indianapolis newspapers announced that Fred. P. Rush, who for forty-three years has been the leading grain merchant of that city, has sold his business entire to Frank Murphy of Chicago, the transfer to be made on Tuesday, January 15.

The tangible property conveyed includes elevators at Raven, Christian, Hume and Hildreth, in Edgar County, Ill.; McCauley, Newman and Murdoch, in Douglass County, Ill.; Ogden, in Champaign County, Ill., and Dana, Vermilion County, Ind. In addition to this, there are about 120,000 feet of corn cribs at Mt. Comfort, Hancock County, Indiana; Sanborn, Knox County, Indiana, and other places. The combined elevator capacity is about 300,000 bushels.

Mr. Murphy has for the past twelve years been a resident of Chicago, where he has been associated with E. W. Shirk in the banking business. He will keep with him at Indianapolis Bert A. Boyd and George A. Fisher, who have been with Mr. Rush for a number of years.

Mr. Rush is one of a number of those young Germans who went to Indianapolis early in the 50's. After clerking for a while he joined Henry Schmull in the retail grocery business in 1855. In 1856 he started for himself in the seed business, from which he drifted naturally in 1857 into grain. He was, therefore, the first grain dealer, on his own account, to do business in Indianapolis. In 1865 Mr. Rush took in as partners his brother-in-law, Edward Gall, and George E. Townley, both of whom continued with the firm until their deaths, the former dying in 1893 and the latter a few months ago, when Mr. Rush bought his estate's share of the business.

CARE OF FIRE-FIGHTING APPARATUS IN COLD WEATHER.

Now that cold weather is upon us again, it may be profitable to call the attention of persons interested therein to the care that ought to be taken with all fire-fighting liable to be affected by freezing weather. This is especially timely with regard to such apparatus in elevators and mills—in the former more particularly, because it is there more exposed to the low temperature than in mills or other manufacturing establishments, which are more or less heated in the winter season. Standpipes with their hose connections, barrels and buckets containing water, chemical extinguishers (those of the acid class) are on the list of apparatus that suggest special mention of this kind.

Standpipes if not properly drained and cleared of water are liable to be found in a clogged condition, with a mass of ice choking the valves at connections, should occasion require the use of the hose for fighting a fire. Proper care in this regard would include disconnecting the hose and testing the valves at frequent intervals, immediately reconnecting the hose when the test is completed.

Another element of danger to which standpipes are subject, which are thought to be thoroughly dry inside, is the unseen accumulation of moisture at certain points by sweating. Where standpipes pass through grain bins, the grain has a tendency to cause sweating or the condensation of atmospheric moisture on the interior of the pipes. This moisture, when accumulated in sufficient quantity, runs down to the valves or bends, where it may be frozen into a solid mass of ice, throwing the whole apparatus completely out of order and rendering it useless in consequence. All hose connections, or valves at the bottoms of the pipes, should be provided with petcocks to draw off this water or, better still, to afford automatic drainage at all times, a vessel being placed under the cock to catch the drainage, or making other provision for its removal.

Water barrels during even a short period of freezing weather may easily be rendered useless for fire fighting if neglected. All water in the barrels should be brine, and the employees on each floor where they are located should be instructed to stir the contents of the barrels daily with a stout stick or paddle. This repeated stirring will prevent the salt from settling to the bottom and the ice

from forming on the top. The barrels moreover should be provided with covers which will protect the brine from the weather and from evaporation as well.

The chemical fire extinguishers which do not contain non-freezing mixtures—those which contain water in part, like the acid machines—will freeze during cold weather, if exposed, and are quite unreliable for duty in houses that are not heated and really are only ornamental during the winter, for when their services are needed they are apt to prove but a delusion and a snare, so far as their fire-fighting value is concerned.

Eternal vigilance is the price of success with fire-fighting apparatus in winter.

JOHN F. FLEMMING.

The subject of this sketch, whose portrait is presented herewith, is the junior member of the firm of Flemming Bros., with headquarters at Armstrong, Iowa. This firm extensively handles grain and seeds on the B. C. R. & N. Ry., in Northern Iowa. They have a number of elevators on this line and have also bought on the Iowa Central Ry. They recently sold several elevators, but contemplate building a number of others shortly.



JOHN F. FLEMMING.

"Jackson," as his friends call him, is very popular with all his trade, and also a great favorite with traveling men who call on the firm. He is a jovial and a whole-souled fellow, whom everyone makes it a point to see when in his neighborhood. He was born March 16, 1870, in Winneshiek County, Iowa. Until he was seventeen years of age, he attended the district schools; but the two years following he spent at the Breckinridge Institute at Decorah, Iowa. After leaving the Institute, he taught school for two years. Not finding this career to his liking, he tried several other avocations in Minnesota and South Dakota, among others that of manager of the postoffice at Armstrong, Iowa, of which "Jackson's" brother was postmaster for six years, "Jackson" acting as his assistant. Finally the brothers formed the partnership of Flemming Bros., to handle grain, harness and hardware. They have been very successful and financially are getting well along toward "Easy Street."

"Jackson," a "likely young man," is of course, very popular socially, and being president of the "Gopher Club," is recognized as the social leader of Armstrong.

Woodbury County, Iowa, claims to be the banner corn county of that state, with a yield of 5,898,000 bushels. Sac County is next with 5,191,820 bushels.

Chicago's lake shipments of grain in 1900 were 130,818,232. Rates were higher than usual. Of this total, only 2,600,000 bushels went through the Welland canal.

GERMS AND SPONTANEOUS COMBUSTION OF HAY OR VEGETABLE FIBER.

It hay is stacked before it has been properly cured by drying in the sun, it is a matter of common knowledge that fermentation will take place; and that if stacked very wet it is likely that in course of time the stack will become heated to the point of ignition. This action of water upon vegetable matter is chiefly due, it is supposed, to the presence in the latter of germs which, in the course of their growth, absorb large quantities of oxygen in the process of decomposition. In the course of manufacturing vegetable substances, such as cotton, most of these germs would be destroyed, but probably sufficient would remain to produce a certain amount of heat when acted upon by the water. This heat would have no means of escape, and might accumulate until a sufficient temperature is attained, at which the vegetable fiber and the oxygen of the atmosphere could combine directly, of course with spontaneous ignition as the result.

Hay or vegetable fiber will seldom ignite if, after being once properly cured or dried, it is saturated with pure water. The reason is that the germs which the water feeds have been destroyed in the process of curing, and others have not been able to form. But, of course, if greasy or oily water be thrown upon such materials, the result would be different. Many porous substances, like fibers, are liable to self-ignition, especially during the summer heat, after a continuation of dry, warm weather. A sudden storm or a shower of rain appears to give new life, as it were, to the parched-up matter, and a fire is the result. Dry, warm weather would facilitate the growth of these germs, and the shower would bring them into action. However, as a matter of precaution, a hay which has been placed in a mow should be perforated with stakes or poles to make holes for the escape of the gases, in which case no combustion will take place.

Many occurrences of fire not otherwise explainable lead to the conclusion that stable manure will ignite spontaneously, its chemical properties favoring this supposition.

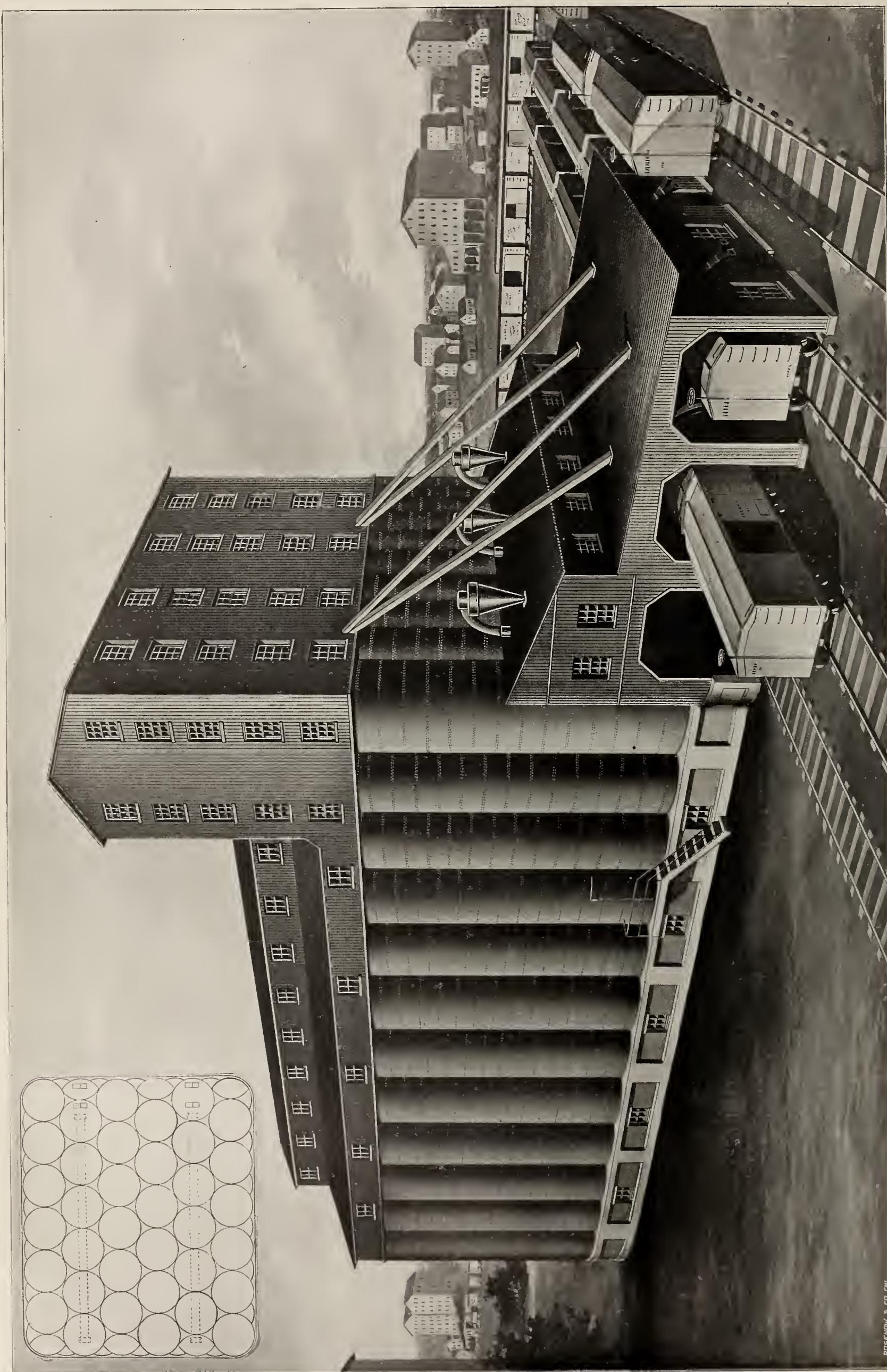
SHRINKAGE OF CORN.

A. D. Shamel of the Illinois College of Agriculture at Champaign in response to an inquiry by the Bloomington Pantagraph says: "I made an extensive series of inquiries. I have found that there is very little positive information on the loss on corn from shrinkage or other cause. In the first place, the amount of shrinkage depends on the season. In a short season when the corn cannot mature and dry out thoroughly there is bound to be more shrinkage and consequent loss than in a season like the present when the corn has fully matured. Secondly, the kind of crib influences the amount of loss. In a well built, well covered crib there is less loss than in open, imperfectly built cribs. Mice, rats and other vermin, together with poultry, on the farm, are the direct cause of considerable loss, depending on the construction of the crib."

Referring to the experiments made by the Iowa experiment station, hitherto published in these columns, by which the loss by shrinkage in one year was found to be equal to 20 per cent, he cites also W. W. Stevens of the Indiana State Board of Agriculture, who is quoted as having said that "if corn is cribbed during October and November it will shrink about 30 per cent in weight and almost as much in bulk. If cribbed in December or January it will shrink about 25 per cent, and most of the shrinkage will have occurred by March."

Prof. Shamel also quotes H. J. Baldwin, of the Pratt Cereal Company of Decatur, Ill., who says: "It will require an advance of price of 10 cents per bushel to pay for the loss from shrinkage and other causes. In other words a price of 30 cents in the fall is equal to about 40 cents per bushel in the spring. Of course this will vary from season to season."

Send us the grain news from your county.



STEEL ELEVATOR OF THE IRON ELEVATOR AND TRANSFER COMPANY AT BUFFALO, NEW YORK.

Macdonald's Patent Steel Storage Bins, Absolutely Fireproof.

Storage Capacity, 650,000 bushels; Handling Capacity, 250 Cars per day of 10 hours.

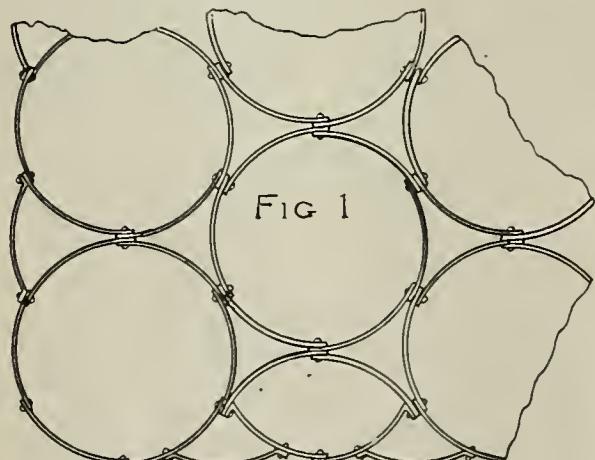
Macdonald Engineering Company, Chicago, Ill., Engineers and Contractors.

THE IRON ELEVATOR AND TRANSFER COMPANY'S NEW STEEL ELEVATOR AT BUFFALO, N. Y.

From present indications it would seem that the first few years of the twentieth century would bring about a revolution in the art of building grain storage houses, and that the evolutionary period is already well under way. The efforts that are now being made at the head of Lake Superior in elevator building mark a well defined departure from old methods, and while there may be failures and disappointments—as there always are in new lines of effort—the issue is upon us with the demand that grain shall be handled and stored in buildings of a more permanent character than those which are continually going up in smoke and down into the coffers of the insurance companies.

We present herewith a perspective view of a steel fireproof elevator now being built by the Macdonald Engineering Company, engineers and contractors, Chicago, in the terminal yards of the Lake Shore & Michigan Southern Railway at Buffalo, N. Y., for the Iron Elevator & Transfer Company of that city. The general appearance of the outside of the storage bins presents a series of vertical convex surfaces, which first suggests a nest of tanks, but on closer inspection the reasoning does not hold; as the outline of any one cylinder becomes merged into that of the adjacent cylinder before the circle could be complete in either. The construction of the bin arrangement can be better understood by reference to the small bin plan shown in the upper left corner of the cut. The bins are here shown as a series of cylinders, or tanks, placed in juxtaposition to each other, leaving a triangular space between any three on the inside, and having the space between the cylinders, on the outside, reclaimed by means of a wall of the same curvature as the main cylinders, the exposed outside surface of each being equal. The detail of construction, however, shows that the bins are not separate cylinders, but that all cylinders, and the pockets between them, are so interlocked at their points of contact that the whole structure is erected as one piece.

The erection of the bins in this manner is much simpler than might be supposed from the first glance at the plan. In the first place, the steel plates re-



DETAIL OF MACDONALD'S STORAGE BIN CONSTRUCTION.

quired are all of uniform curvature and size. The punching is uniform. The length of each plate is one-sixth of the circumference of the bin, and as the vertical joints are made at the points of contact, the plates are of four thicknesses at that point on the inside. It will thus be seen that each triangular pocket is composed of three equal plates, and if these plates are set at one time, the whole bin structure is erected by repeating this operation of building the triangular pockets only.

Fig. 1 shows the method of laps and joints which are riveted or bolted through, binding the whole structure together as one piece. All of the space inclosed by the bins is available for storage. The triangular bins may be kept separate or incorporated with the adjacent cylinders, in which case suitable openings are made in the walls of the cylindrical bin to allow the pocket bin to fill from it and empty in the same manner. Some of the bins on the ends of the building finish up as half-sized

bins of oval shape, as shown on the plan, thus giving a perfectly uniform appearance to all outside walls.

The cylindrical bins are 17 feet diameter and 65 feet deep, with a gross capacity of 650,000 bushels. The bin story is carried on a concrete foundation, which is built nine feet above the grade line and inclosed with concrete walls, thus giving a liberal working story under the entire area of the bins.

The basement contains the steel spouting from the bins, the belt conveyors, elevator boots, car pullers, electrical machinery and transmissions.

The car shed is of steel, and covers four tracks, two of which are used for receiving and two for shipping. Over the first track the shed is built two stories high. The second story is used for the cleaning and clipping machinery. The bins adjacent to the cleaner room are hopped above the machines, and spouted to them through the side walls. This divides the bins into two compartments, the upper one of which is used for the grain to be cleaned and the lower for the cleaned grain.

The bin story is covered with a concrete floor, in which are placed cast-iron spout openings and manholes. The roofs and cupola are entirely of steel, covered with galvanized iron.

The cupola contains four scales and garners of 1,600 bushels' capacity each, four steel elevator legs of 12,000 bushels' capacity each, besides two belt conveyors for filling the bins, and a transfer conveyor.

The elevator legs and other machines are all driven by electric motors, using the current from Niagara Falls, the transformers and starting devices being located in a separate dustproof room in the basement.

The entire building is absolutely fireproof, no combustible material of any kind being used in its construction. It is interesting to know that such a plant is being built complete, with full equipment of machinery, ready for operation at twenty cents per bushel, which is very little above what a corresponding plant could be erected for in wood.

SNOW REPORTS A SHORT CROP.

B. W. Snow, the well-known crop expert and corn propagandist, who has been for some weeks in the Argentine republic, writes the Chicago Record under date of November 7, as follows:

"The commercial outlook in Argentina just now is not satisfactory. In this country everything absolutely depends upon agriculture, and the agricultural prospect at this time is far from good—in fact, is distinctly bad. The three staples upon which rests the prosperity of the country are wheat, wool and cattle in the order named. In each of these lines the situation is distinctly worse than last year. Last year's wheat crop broke all records with an export surplus of practically 2,000,000 tons, which, with some 600,000 tons required for domestic use and the flour trade, represented a crop of about 87,000,000 bushels. This year the winter was mild and open and an increased acreage amounting perhaps to 20 per cent was sown. There was practically no cold weather, and with unusual rain in the spring the plant made a very early start and grew rank, with insufficient root growth. The result, now that harvest is approaching, is seen to be an excessive growth of straw, without sufficient vigor as the hot weather comes on to mature good heads, and owing to the absence of frosty weather early there is a decided deficiency in the stooling of the plant. Local opinion just now is very conflicting, but it is fairly evident that counting poor quality as well as quantity, the export surplus from this crop will not exceed 1,500,000 tons, or a commercial shortage of nearly 25 per cent. The local feeling may be judged by the fact that the forward shipping engagement of wheat tonnage from Rosario, the great wheat-shipping port, is less than one-fourth that of a year ago at this date, while the price of bags in which all wheat is shipped is only about one-half that at this time last year."

From which it will be seen that the American expert and the Argentine Minister of Agriculture, who only the other day reported officially an ex-

portable surplus of wheat of 63,000,000 bushels, do not quite agree as to what constitutes a "bad crop" in the Argentine.

MATTISON ELEVATOR.

The accompanying picture is one of the Mattison Elevator, formerly controlled by Bartlett & Frazier, but at the present time operated by C. L. Dougherty. This plant is located on the Michigan Central Railroad's Joliet cut-off at Mattison, Cook County, Ill. For a long period this house was the only one in this locality, but the Stege Bros. recently built another elevator at this place, which will have a tendency to make the town somewhat of a grain center, it being situated in the midst of a prosper-



C. L. DOUGHERTY'S ELEVATOR AT MATTISON, ILL.

ous farming community as well as having transfer facilities, the Illinois Central and the "Belt Line" Railroads also passing through the town.

The Mattison Elevator is a substantial frame structure with stone basement foundation and stone piers. The building proper covers 60x50 feet, or an area of 3,000 square feet. It is 82 feet high to top of the cupola, which extends two stories above the bin floor and has a shingle roof.

The one-story brick boiler and engine house adjoins the elevator on the east and has a gravel roof. The motive power consists of a 75-horsepower engine and a 60-inch by 16-foot new tubular boiler and boiler feed pump.

The elevator machinery consists of six elevator boots in the basement. On the first floor are located six elevators, one screw conveyor, one Monitor and one Excelsior Separators, one Eureka Horizontal Oat Clipper and one wagon dump. On the bin floor are the scales and weighman's office. On the cupola floor are the garners, one screw conveyor and the elevator head.

The bins, of which there are eighteen, have a storage capacity of 40,000 bushels and are constructed of 2x6's and 2x8's spiked and are twelve feet square. The dust from machines is blown through two dust collectors on the roof of the engine house and is burned under boilers. The stairs and belt shaft is inclosed on the second floor by 2-inch planks. The line of shafting has adjustable blocking and all windows are screened by the regulation $\frac{1}{2}$ -inch mesh. The equipment of fire apparatus consists of a good supply of Miller Chemical Extinguishers, barrels of salt water, fire pails and axes well distributed throughout the building.

This plant has accomplished a vast amount of work during the past season and is always in active operation. The property is owned by the Michigan Central Railroad. Mr. James Kier is the superintendent.

The grain inspector's records show that there was a big falling off in the amount of wheat inspected at Manitoba points during September-November, 1900, as compared with the same period of 1899. For 1900 there were 5,989 cars, or 4,970,870 bushels, compared with 15,768 cars or 13,087,460 bushels in 1899. The percentage of No. 1 Northern was small, being only 652 cars, compared with 12,047 cars in 1899.

AMERICA.

1901.

O can't you see her standing at the portals of the world—
With her eager eyes exulting in the flag she's just unfurled;
The favorite of Fortune, and the mistress of the Fates,
The heir of all the ages, flinging back the puny gates
That frown upon her progress, and dispise the mighty power.
Of a goddess come to realize the glory of her dower?

She is young, and she is fearless; her heart is full of fire,
And restless with the urging of unsatisfied desire;
She has turned her back on darkness, and her brow is bathed in light
That shall stir the sodden sleepers of the lands that live in night;
She will falter, she will stumble, she will fall, and she will sin—
She will suffer for her folly, she will rise, and she will win!

O Thou who holdest nations in the hollow of Thy hand,
Make clear to us Thy purposes, and help us understand
The danger of our daring, and the weakness of our strength—
The law of life immutable, which layeth low at length
The proudest of Thy peoples, when pride and lust combine
To rob Thee of the glory and the tribute which is Thine!

—Theo. F. McMaus, Poet Laureate to King & Co.'s Little King and Queens.

COMMUNICATED

[We invite correspondence from everyone in any way interested in the grain trade, on all topics connected therewith. We wish to see a general exchange of opinion on all subjects which pertain to the interest of the trade at large, or any branch of it.]

MORE RELIABLE THAN GOVERNMENT REPORT.

Editor American Elevator and Grain Trade:—The writer believes that a report gotten up by the members of the Kansas Grain Dealers' Association would give more reliable information than that contained in the government crop report.

Yours truly,
WESTERN GRAIN & STORAGE CO.,
Per Dewing.
Wichita, Kan.

GOVERNMENT REPORT WOULD REMAIN THE STANDARD.

Editor American Elevator and Grain Trade:—I am of the opinion that the association could not get up a crop report which would be any more accurate than the government report, and inasmuch as the two reports would sometimes conflict, it would be liable to lead to much confusion, and in any event the government report would be accepted by the majority as the standard.

Yours truly,
THE NEW ERA MILLING CO.,
By A. J. H.
Arkansas City, Kan.

CORN GRADES LARGELY NO. 4.

Editor American Elevator and Grain Trade:—Corn is not very good here; there is a great deal of dry rot and it grades mostly No. 4. A great deal of it is in open cribs and not nearly as good quality as last year.

There are other adverse conditions here, as the farmers have organized a coöperative company and are breaking ground now to erect a cheap barn of an elevator. This, of course, will tear trade up a great deal.

Yours truly, J. M. GREENE & CO.
Wapella, Ill.

MUST RELY ON GOVERNMENT CROP REPORT

Editor American Elevator and Grain Trade:—I am of the opinion that the Millers' Association could not get up a crop report that would be satisfactory at all times. We sometimes make an effort to get up two reports each year, one about the first of April and one about the first of June, and when we make a special effort we generally get a very accurate report. But it takes a big effort to procure same, and it is gotten about the same way that the government report, only ours comes from the millers, who are generally more competent to make a report than some of the reporters that are called on to report to the government. The only trouble with us we have no paid secretary and for that reason our secretary does not feel

justified in making any great effort. I am of the opinion that the government report is the one we will have to rely on for the present.

Yours truly, GEO. H. HUNTER.
Wellington, Kan.

GOOD CROPS AND BRIGHT PROSPECTS.

Editor American Elevator and Grain Trade:—Corn is very good here, making about 25 bushels to the acre. There was a large crop of wheat and the new crop is looking fine. The weather is fine and farmers are all through husking corn.

Inclosed find our check for \$1 for the "American Elevator and Grain Trade." Could not do business without your valuable paper.

Very truly yours,
BLYTHE & PATTON.
Blue Springs, Neb.

FAVORS AN ASSOCIATION CROP REPORT.

Editor American Elevator and Grain Trade:—I believe that the Grain Dealers' Association could get up a crop report which would be much more reliable and accurate than the government report, as each party contributing to the association report would, or should, be personally interested. I cannot think that the expense incurred would be very oppressive to any member of the Association.

Respectfully, J. T. WHETSTONE.
Plevna, Kan.

HAD CARS ORDERED FOR A MONTH.

Editor American Elevator and Grain Trade:—We are having all kinds of trouble to get cars. Have had cars ordered for Newport News all the month and put in an order on the 22d for ten. I must have five this week or I will lose my contract.

I would be in favor of a law to make the railroad companies protect their customers, but I cannot see any way out of this kind of treatment now only to take it.

Yours truly, H. RANDOLPH.
Covington, Ind.

MUST SHIP IN ALL KINDS OF CARS.

Editor American Elevator and Grain Trade:—We are suffering considerably from a car shortage. While we are moving our grain very freely, we cannot get the kind of cars we want but have to take anything we can get.

We know of no way to remedy this matter and have nothing to suggest. We see no way to compel the railroads to furnish cars or anything else which they have not.

Very truly yours, HOLMES BROS.
Portland, Ind.

ASSOCIATION REPORT SHOULD BE CONFIDENTIAL.

Editor American Elevator and Grain Trade:—We think the paper read by Mr. Finn at Wichita on crop reports touched a very important question, but our view in this matter would be that it would not be kept sacred and confidential, and if made complete would be almost sure to work more harm than good. On the other hand, if the matter was thoroughly gone into and complete and correct statements were made which the members or owners were compelled to keep sacred, the expense would not be too great for such a report, if kept out of the hands of the speculator.

Yours truly, W. M. CHATTEN.
Clayton, Kan.

CROP REPORTS MAINLY VALUABLE TO SPECULATORS.

Editor American Elevator and Grain Trade:—I do not think a crop report gotten up by the associations would benefit the members in proportion to expense that would be incurred in securing same. When we consider the matter, of what direct benefit would the information be to the average country dealer, no matter how accurate the report?

I take it for granted that the majority of our dealers are not in the speculative business, but are governed in their transactions by conditions as they find them from day to day, never trying to guess what will happen to-morrow, or six months from now. This is the field of the speculator, and not the conservative grain dealer. But as most dealers wish to gain some general knowledge of

crops and crop conditions (just as the average business man desires to keep informed on matters touching his particular line of trade), I think the government report is reasonably accurate enough to supply the want.

Yours truly, DAVID HEENAN.
Wichita, Kan.

COMPLETELY BLOCKED WITH GRAIN.

Editor American Elevator and Grain Trade:—We are completely blocked with grain. Have not had a car for the past four or five days, either for corn or oats.

It seems to me the most reasonable way out of the difficulty would be to have the privilege of loading any car that might be on the siding, and then let the company transfer the grain if the car would not reach destination.

This question is too deep for me to solve. While I would not and do not complain, yet I think the company should make provisions for the increase of business.

Yours respectfully, D. P. HURD.
Walton, Ind.

NO BENEFIT IN CENTRAL SYSTEM.

Editor American Elevator and Grain Trade:—We notice the matter of bringing the central system into general use among the grain trade is being quite thoroughly discussed by dealers in different sections. We hardly see where it would benefit the dealers. In fact, it looks as though it might be a detriment for them to buy oats on a basis of 100 pounds where at the present time they buy on a basis of 32 pounds, or corn on a basis of 100 pounds where at the present time they buy on a basis of 56 pounds.

Considering all things, it seems as though it would be better to leave the matter as it now stands.

Yours truly, E. R. ULRICH JR.
Springfield, Ill.

IT WOULD NOT PAY.

Editor American Elevator and Grain Trade:—We feel that the government reports and the state reports which have been made up and published regularly give us as definite information, and as valuable information, in every way, as could be obtained through a report gotten up by the Grain Dealers' Association.

We do not think it would be advisable to have the Association go to the expense of obtaining the necessary information to issue general crop reports. As a matter of fact, we do not consider crop reports of much value to a conservative country dealer, except as they pertain solely to the location in which he does business.

Yours truly,
THE KANSAS GRAIN COMPANY,
L. B. Young, Secy.
Hutchinson, Kan.

SHOULD PASS THE CULLOM BILL.

Editor American Elevator and Grain Trade:—The car situation in this part of the state could not well be worse. No dealers that we know of have had a sufficient number of cars, or the kind of cars they wanted. Especially severe has been the suffering of the smaller towns, where there was little ingoing business and no competition.

We have in mind one station that now has over 15,000 bushels of corn in pens and cannot get cars that will go to Baltimore to move it out.

The hay shippers are unable to do a thing on account of the car situation.

I am not sure that I can offer any solution of the trouble, but I talked to a number of dealers at the Grain Dealers' National Association meeting at Indianapolis, and the general opinion among them was that if possible the Cullom bill should include the power to compel the railroads to furnish sufficient equipment to handle the products of the farm without so much delay.

I think this would be practicable, and that the Interstate Commerce Commission should have this power. From what I could learn from western dealers in attendance at the meeting, they have suffered very little from the car famine, many of them saying they could get all the ears they

wanted. I hope the evil will be corrected and think that every shipper should write to his congressman and urge that something be done, and that the Cullom bill be passed at this session.

I am

Very truly yours, P. E. GOODRICH,
Winchester, Ind.

BREAKING RECORDS AT NEW ORLEANS.

Editor American Elevator and Grain Trade:—This has been a year of record-breakers in New Orleans from a commercial point of view. We have had bumper shipments of grain, tobacco and almost every other article dealt in here; and we have also broken the record in imports on several occasions.

Elevator "D," Stuyvesant Dock, broke the record yesterday (Dec. 26), 605,798 bushels, representing 15 hours' work. It is quite on the cards that elevator records will have to be revised a little. The indications are that this season's marine business will be the largest ever known here and gives reason to hope that New Orleans will take a place very nearly at the top of the list in the matter of grain exports.

The writer has already pointed out that this city was destined to do a big business in corn and wheat this season—a far larger one than for some years past, so well have the western exporters learned to know the merits and facilities of this port.

New Orleans is winning the position to which it is entitled as a grain port.

Yours truly, FRANCIS B. SALA,
New Orleans, La.

CAR SERVICE IS WORST EVER KNOWN.

Editor American Elevator and Grain Trade:—The Indiana grain dealers and farmers, retrospectively and introspectively, closely resemble the victim of a long period of ill luck who applied to a fortune teller in the hope of lifting the mystic veil and taking a peep into a more promising land of the future. The fortune teller informed him that he had had a streak of hard luck for five years, which he explosively affirmed; that he would probably have another stretch of five years of further hard luck. "Yes, yes," he responded, "I can stand even if there is any hope thereafter. What comes next?" The fortune teller looked wise and solemnly asserted, "And after that, five years of a darner sight harder luck."

Remedy? Force the railroads to discharge fully and completely their duties as public carriers and the remedy will be complete. Present conditions are rank and inexcusable imposition on the public by holders of franchises.

Our present car service is worse than ever known—worse than ever deemed possible, and paralyzing to the entire agricultural interests tributary to the railroad lines.

Yours truly, H. J. CALDWELL,
Earl Park, Ind.

CAR SHORTAGE CAUSING HEAVY LOSS.

Editor American Elevator and Grain Trade:—In regard to the car shortage, etc., we regret to state that we are suffering untold inconvenience at the present time. Not only has it proven inconvenient to us, but a great loss financially, as we have already been compelled to buy in sales that we had made both in the East and in Chicago (on account of our inability to get transportation), to exceed not less than \$1,000 to \$1,500.

Both of our elevators are full and closed down at the present time. We have been compelled this week to hire livery rigs to go out and notify as high as seven shippers at one time, to not send their corn to us as we could not take care of it, owing to our inability to secure cars.

We do not believe that it is in the power of any individual to make any change. But we think that during the dull season the railroad people should make special efforts to move their coal, coke and such articles, so that when the corn begins to move the grain cars might be used for no other purpose. When grain is bailed out it should be shipped promptly, and unloaded as quickly as possible after arrival in the East, and the cars hurried back to the grain centers.

In the first place, cars should not be used for

coal, coke or iron. It puts them in bad repair and unfit them for the hauling of grain.

Yours truly, C. W. HARTLEY,
Goodland, Ind.

CAR FAMINE IS GENERAL.

Editor American Elevator and Grain Trade:—We have not had sufficient cars at any time since corn husking began. Have been compelled to buy in sales of corn made for future shipment on account of not having any cars. Part of this time we have been compelled to close our corn mill at Newport, Ind., simply because we could not get the cars to bring in the corn or to take the manufactured products out.

The writer has just returned from a few days' trip on the C. & E. I. R. R. between Danville and Tuscola, Ill. I found the same complaint all along the line—elevators full of corn and buyers compelled to stop farmers from hauling more this fine weather. We heard the same answer at every station, "I would be glad to sell you some corn but cannot promise when I could ship."

Some of our wiser heads should formulate a legislative bill that will compel common carriers to furnish transportation within a given time. If this could be done, the railroad companies would soon own more cars. All railroads in Ohio, Indiana and Illinois which have been operating with 500 or 600 cars short during the past three months have lost enough business to have equipped their roads with sufficient cars to handle all future offerings promptly.

Yours respectfully, J. S. HOLLOWELL,
Montezuma, Ind.

HOW TO GET A RELIABLE CROP REPORT.

Editor American Elevator and Grain Trade:—As to our opinion of an association crop report, would state if all the members would take an interest in this matter, and confine it only to the members of the association, it would not only be a most reliable report but one that would be of utmost importance to the members of the association.

Our Association, some time in the past, endeavored to get out a crop report, but owing to the indifference of our members in answering inquiries of our secretary, it did not prove a success. What information was gathered was given to the public. In order to make this a success and be of value, in our opinion, it would be very necessary for each one to give complete and correct information at all times when requested to do so.

Furthermore, what is public property is of very little interest to anyone, hence we think to make this a valuable report each should not only report fully and promptly, but the information should be given only to the members of the Association. By following this course we believe it could be made very valuable to the Association members.

As to the reliability of the government report, while we do not consider this by any means reliable, it probably is as much or more so than any other information we can get at the present time.

Yours truly, H. WORK & CO.,
Ellsworth, Kan.

GRAIN MOVEMENT AT GALVESTON.

Editor American Elevator and Grain Trade:—The grain movement through Galveston this past year shows some diminution owing to varying causes. There is not much difference from last year in the amount of wheat exported, but corn has shown quite a falling off. Texas corn ranks at the head for export purposes and is much sought after by foreign purchasers.

But the crop of Texas during the past summer was not adequate for the requirements of home consumption. Therefore, there is nothing in Texas for export, and it has been from Texas that large quantities of corn have gone forward in previous seasons.

Up to the day of the storm Galveston had the finest kind of prospects for a grand grain season, but the damage done to the elevators and the grain on track, the lack of terminal facilities for a long time and the general situation were not conducive to much of a movement.

Wheat has been coming forward ever since trains began to move into the port after the storm,

but it has only been recently that Elevator A, the only one able to do business, was opened for a general export business. The damage to grain in the elevators was very slight, notwithstanding the damage done to them. Wheat has been exported from Galveston almost constantly since the storm, and not a single complaint of bad condition has been received. Elevator B and the Texas Star Flour Mills elevator will be in operation this month, and the grain facilities of the port will not only have been fully restored, but bettered.

Very truly yours, C. McD. ROBINSON,
Galveston, Texas.

INCREASED RECEIPTS AT ST. LOUIS.

Editor American Elevator and Grain Trade:—The grain trade of St. Louis has been very satisfactory during the year now closing. The crop of soft wheat in the territory tributary to St. Louis was large and the hard wheat of Kansas largely sought St. Louis as a market. The wheat crop in the winter wheat states east of the Mississippi was smaller than usual, consequently the supply for that section was largely drawn from the St. Louis market. This, including a good milling demand, made a market for all the supplies received after harvest.

The amount handled in St. Louis was 19,124,054 bushels, nearly double the amount received in 1899. Receipts of other coarse grains were about as usual.

One item of interest during the year was the establishment of a new steel barge line between St. Louis and New Orleans, which will add to the transportation facilities of this market. The two barge lines now have a fleet of eight tow steamers, 62 barges, with a total capacity of 2,700,000 bushels of bulk grain.

The outlook for the coming year is most excellent and St. Louis expects and intends to receive her full proportion of the grain business of the Mississippi Valley.

The receipts of the past two years compare as follows:

	1900.	1899.
Wheat, bushels	19,124,054	10,428,163
Corn, bushels	24,956,865	23,344,475
Oats, bushels	13,091,925	12,606,835
Rye, bushels	473,105	454,799
Barley, bushels	1,998,750	1,409,474
Total bushels	59,644,699	48,243,737
Receipts flour, 1,856,895 barrels in 1900.		
Receipts flour, 1,514,315 barrels in 1899.		

Yours truly, GEO. H. MORGAN,
Secretary Merchants' Exchange,
St. Louis, Mo.

WANTS THE METRIC SYSTEM ADOPTED.

Editor American Elevator and Grain Trade:—About six years ago a war was on regarding the adoption of the metric system, but peace was restored without anything having been accomplished. Under date of December 13 our county paper brings this news:

"May adopt metric system. House committee unanimously recommends such a step. The bill of Representative Shafroth of Colorado for the adoption of the metric system by the United States was Thursday favorably reported by unanimous vote of the House committee on coinage, weights and measures. The bill was changed so as to make the system go into effect January 1, 1903. Officials of the treasury were present and expressed approval of the measure. Mr. Shafroth stated that all the civilized nations except Great Britain and the United States had adopted the metric system, Russia being the last to do so a few weeks ago. The bill as reported provides: That on and after January 1, 1903, all the departments of the government of the United States in the transaction of all business requiring the use of weights and measures, except in completing the survey of public lands, shall employ and use only the weights and measures of the metric system; and on and after January 1, 1903, the weights and measures of the metric system shall be legal standard weights and measures of and in the United States."

It now becomes our duty to write to our respective representatives and ask them to vote for the measure. No doubt there will be some who cannot

grasp the idea, new to them, but we are not the pioneers but the back numbers in this wheel of progress.

Hoping you will lend a hand while the opportunity is open for it,

Yours truly, HENRY BERNHARD.
Strasburg, Ill.

CAR SHORTAGE IN INDIANA.

Editor American Elevator and Grain Trade:—Business here is almost at a standstill on account of shortage of cars. I have loaded every car I could get since August 15 and have lost between \$1,200 and \$1,500 because I could not get cars when I wanted them, and it is losing me from 1 to 1½ cents a bushel because I cannot get the kind of cars I need.

I have no new method to suggest only that the railroads buy a lot of new equipment.

Respectfully, ROBERT BELL.
Fowler, Ind.

Editor American Elevator and Grain Trade:—We are suffering very much indeed for the want of cars, losing money right along on account of having a full elevator and making it necessary to shut down.

The only remedy we could suggest would be through legislation. We think the Grain Dealers' National Association should put forth every effort to secure legislation in this direction.

Yours truly, BARNES MILLING CO.
Whitestown, Ind.

Editor American Elevator and Grain Trade:—We are not having any great trouble in getting cars and never have had that trouble to any great extent.

Wishing you a Merry Christmas and a happy and prosperous New Year, we remain

Yours truly, M. PRICE & SON.
Crawfordsville, Ind.

Editor American Elevator and Grain Trade:—We have had some shortage of cars but can get all the cars we want at the present.

Yours truly, CAYUGA MILLING CO.
Cayuga, Ind.

Editor American Elevator and Grain Trade:—We are full of corn to the roof and it is next to impossible to get cars. My idea is that we will never make much progress in this respect as long as one dealer pulls one way and another dealer the other way. Whenever the grain men present an unbroken front to the railroads, my belief is that we will get plenty of cars, or damages.

It is neither equitable nor business like to be treated as we are in regard to cars. An 80,000-pound car earns \$112 each trip to Baltimore at the present rate (14 cents), if I am correctly informed. Four trips, one way, will pay for a car, so I think it pays to haul our corn.

Respectfully, W. E. HURD.
Logansport, Ind.

GROWTH AND PROSPERITY OF TOLEDO.

Editor American Elevator and Grain Trade:—It is quite common to measure the importance of a city by an estimate of its population. This method is sometimes misleading. It is decidedly so concerning the commerce of Toledo, compared with all other Lake Erie cities west of Buffalo. This supremacy in commerce is accounted for by the natural strength of our location, the concentration of a large number of railways and our grand facilities for cheap water carriage.

The average yearly commerce of Toledo in grain is about 45,000,000 bushels. In coarse grains the receipts of the year show the large increase of 10,000,000 bushels over the previous year, but in wheat we have met some adversities. In the states near by to Toledo, the crop was destroyed by the Hessian fly. In Ohio, Indiana and Michigan the production was 55,000,000 bushels less than in 1899, and, of course, less than the consumption in those states. One result of this crop failure is a large decrease in the Toledo receipts of this cereal. This loss has been partly restored by the enterprise of our dealers and millers by a resort to the grain centers of other states. A new and unique fea-

ture in the wheat deal is, that one of our mills has been largely supplied from interior points in Maryland. Baltimore market for wheat has been steadily below ours.

On other lines of traffic, we are doing well. Our receipts of coal are larger than at any other point. The total in 1899 was 3,838,000 tons. I have not yet compiled the table for 1900, but I do not know of any reason why there should not be an increase. Our receipts of iron ore are increasing yearly and that prompts me to say that Toledo is the ideal point for reducing this ore to iron or steel, and besides, the cost of the real estate investment would be less than at points of larger population. In receipts of merchandise by our propeller lines for distribution along the sixteen railways concentrated here, our business is very large. Toledo is a large center for distribution of lumber, salt, etc.

The trade of Toledo, wholesale and retail, is growing yearly. Real estate prices are steadily appreciating. I do not know of a more attractive residence city of its size.

Our population has increased in the decade at a greater ratio than any Ohio or lake city. Investments here in business or residence property are safe from reactions. In churches and schools we are behind none of our sister cities. What further inducement does the interior man of wealth need for a change of residence to Toledo?

Respectfully, etc., DENISON B. SMITH.
Toledo, O.

THE DETROIT MARKET EXPANDS DESPITE WHEAT FAILURES.

Editor American Elevator and Grain Trade:—The grain trade of Detroit for the past two years has been handicapped by short crops of wheat in Michigan and adjoining states.

The average yearly yield of wheat in this state for the past seven years was 24,675,000 bushels, while the crops of the past two years, together, amounted to only 23,335,000 bushels, and the crops of Ohio, Indiana and Illinois, from which the Detroit market draws largely, were also much below the average. These conditions, with the increased eastern milling demand for Michigan wheat, which is the finest in the country, caused large quantities to be shipped through from interior points, and has been partly responsible for the large falling off in receipts of wheat at Detroit. While the grain merchants of the city have not in any way relaxed their efforts to draw business to this market, short crops and geographical location, affecting freights, have worked against us in the way of wheat receipts.

While receipts of wheat have fallen off from 4,650,180 bushels in 1898 to 2,611,900 bushels last year, receipts of corn, rye, oats and barley show a very large increase, aggregating 8,401,800 bushels, compared with 5,265,987 bushels in 1899; so that the year 1900 has shown an increase of 3,135,813 bushels in receipts of coarse grains, and total receipts, including wheat, of 11,013,717 bushels, compared with 8,712,220 bushels in 1899.

The above figures show conclusively that the Detroit market is growing in popularity with the coarse grain shippers of the country, as they appreciate the moderation of our inspection and fairness in weights. With good wheat crops, which tends largely to increase the volume of speculative trading, the grain merchants of Detroit have no fears that the grain business of our city will not compare favorably with that of our neighboring cities.

The elevator system of Detroit has a capacity of nearly 4,000,000 bushels in addition to the large storage capacity of the mills. Our railroad facilities are unequalled by any city of its size in the country. While at times the grain trade is hampered by scarcity of cars, we have a class of railroad officials who take a deep interest in the wants of the grain men and furnish them cars when many other points are sadly in need of them.

The milling interests of Detroit are quite large, doing a business in flour, feed, and corn and oat products which are shipped through this country and Europe, besides supplying the home demand of a city of nearly 300,000 people. The value of the

output of the milling concerns of Detroit for the past year was nearly \$4,000,000, and the demand for these products is steadily increasing.

Reports from the growing wheat crop in Michigan are not very satisfactory, the principal cause of complaint being from Hessian fly, which has injured our wheat so seriously for the past two years. While the weather has not been very severe so far, there has been but little snow to protect the plant, so that it will require the most favorable conditions to promise more than half a crop for harvest.

In conclusion, permit me to say that I take a great deal of interest in looking over your valuable and interesting journal, and hope it may continue to enjoy the prosperity it so richly deserves.

Very truly, WILLIAM CARSON,
Detroit, Mich. Pres't. Detroit Board of Trade.

DULUTH THE COMING LARGEST PRIMARY MARKET.

Editor American Elevator and Grain Trade:—From a commission man's point of view, from an elevator man's view, and even from a railroad man's standpoint, the grain trade of Duluth for 1900 was disappointing.

This condition of affairs was due, of course, to the very bad crop failure, in the territory directly, and almost solely, tributary to Duluth, the Red River Valley.

Without going into statistics, which are usually tiresome, it can be said that for the year just closed the receipts of grain at Duluth were the smallest since 1894.

The grain trade of Duluth, however, is very hopeful of the future, and not without excellent reasons. Our own wheat territory is enlarging at a wonderful rate, both by additions to the population of the older settled districts, and by the opening of new lands in the outlying districts of Northern Minnesota and Northwestern Dakota. The farmers of this section are diversifying their crops, and it is not too much to say that another crop failure, such as occurred in 1900, will hardly be possible.

The recent changes in the railroad map of the Northwest mean a great deal to the grain trade of Duluth. During the year just closed the C. M. & St. P. Ry. gained their own line into Duluth, by making a 99-year traffic arrangement with the N. P., over the old St. P. & D. line. The leasing of the Milwaukee & St. Paul by Great Northern interests is expected to make of the St. Paul a road more in sympathy with the Duluth outlet for grain. Even without this lease, the St. Paul can now be called a Duluth road, and this will give our grain trade access, under favorable conditions, to the rich corn territory of Iowa and Nebraska, as well as a surer grip on the wheat trade of South Dakota and Nebraska.

The year just closed marked the completion of nearly 11,000,000 bushels of elevator capacity, to the previously large terminal storage at Duluth. This consisted of the Great Northern's 3,000,000-bushel steel house, the Peavey Elevator with concrete annexes of 5,000,000 capacity; the Omaha Elevator, of 1,200,000 bushels, and some additions to the consolidated system.

The elevator capacity stands now as follows:

	Bushels,
Consolidated system	12,000,000
Peavey's Duluth terminal	5,000,000
Great Northern	6,500,000
Globe Elevator Co. system	4,500,000
Belt Line	2,500,000
Superior Terminal	2,500,000
Nye, Jenks & Co. (Omaha Elevator)	1,200,000
Mill elevators, cleaning houses, etc.	1,500,000

Total bushels' capacity 26,700,000

With a wheat and flax trade reaching all over the East and Europe, well recognized and well maintained grades, a constantly enlarging corn, oats, rye and barley trade, we stand at the threshold of the new century with every hope for the future.

Duluth, in a much shorter period of time than now thought possible, will be the largest primary grain market of the world.

Yours truly, C. H. THORNTON.
Duluth, Minn.

Send us the grain news of your county.

B. & A. ELEVATOR AT BOSTON.

Additional particulars are given out relative to the New York Central's improvement of the Boston & Albany terminal at Boston. The elevator to be erected will have 2,000,000 bushels storage capacity with rapid handling machinery. Its loading capacity will not, however, be confined to the company's own pier, No. 7, at East Boston, but, by the adoption of a system of belts, grain from the elevator can be conveyed, not only to all the docks of the New York Central, but to the Cunard docks. At present it costs five-eighths of a cent per bushel to move grain from the old elevator to the Cunard ships. Should the eastern piers of the Boston & Maine road come into control of the New York Central, as has been rumored, it is suggested that by a similar system grain could be conveyed to those docks also for export.

The new elevator will take about \$1,500,000 of the \$2,500,000 which the New York Central is compelled to expend in East Boston within the next five years, according to the terms imposed by the Legislature when approving of the Boston & Albany lease.

JOSEPH LEITER ON HIS CORNER.

Joseph Leiter was recently a visitor to Butte, Mont., where he spent a few days examining some mining properties. During his stay he was interviewed by the reporter of the Miner, on the subject of his wheat corner. He seems to have been in an unusually confidential frame of mind, and the interview is interesting as the confessions of a post-corner expert.

"Mr. Leiter," the Miner asked, "is it possible to corner wheat?"

"Yes, if you own all the surplus wheat of the world and control the next crop that is coming on," replied the famous wheat operator.

"If you control the American wheat product will you not control the wheat market of the world?"

"No, indeed. You must own the wheat of both North and South America, Russia and England in order to form a corner. During my experience in trying to corner wheat I at one time owned two-thirds of all the wheat in America and every bushel that there was in England. During that time I shipped over 30,000,000 bushels from this country. When a man tries to corner a product like wheat, he will find that he has to run up against propositions that he had not originally figured upon. For instance when I got wheat up to \$1.75 a bushel I found there was a great decrease in the demand. The people in this and other countries turned to corn meal and those of certain European countries to rye and the other cereals. The man who attempts to make an absolute corner wants to figure on this and also that people will not keep their contracts to the letter. For instance, in deals on margins, when a big rise takes place the man manipulating the market will have many losses. Many speculators will be found to be unable to meet their obligations and as a consequence they will simply give you all the money they have, instead of all they owe you. What they have may be only a small percentage of what they are obligated to pay under their contracts."

"Mr. Leiter, what caused your corner on wheat to break?"

"Well, you might say that was brought about through my not being able to control all the wheat in the world. There were those associated with me in the deal who became alarmed and backed out of the undertaking—but that is another story. We should have made an absolute corner, however, if it had not been for that fact."

"Mr. Leiter, when did you first conceive the idea of making a corner in wheat?"

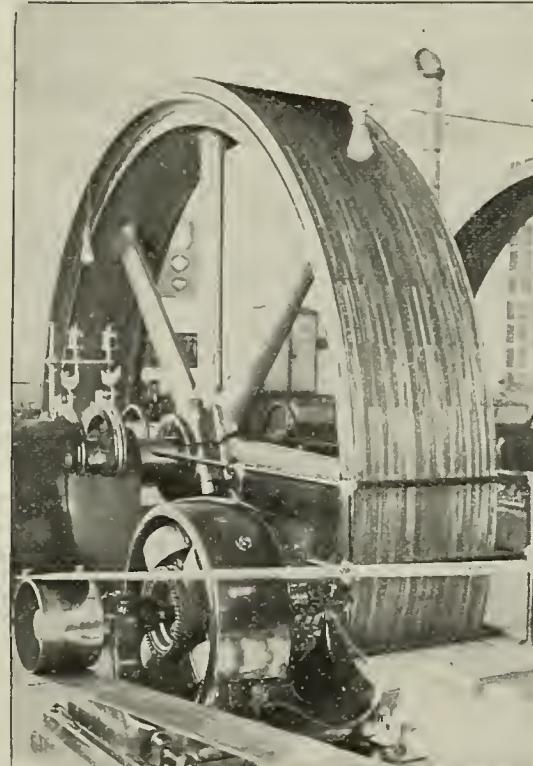
"About six or seven years before I commenced to lay the groundwork for the operation. It took fifteen months to bring that operation to a head after I started it. The work had been going on for six months before anybody except those through whom I operated knew that I had taken a hand in the wheat market, the secret was kept so closely. Once, in July, I could have let go and cleared \$10,000,000, but that seemed too small an operation in

comparison with what might be done, if all the wheat of the world could be controlled, so I didn't stop, but went on with the scheme. That it was not a success is probably a good thing," added Mr. Leiter with a good natured laugh; "for had I been successful it would have spoiled me for the rest of my life and I should never have wanted to do another thing, and you would probably have never seen me out here in Montana looking up mines and other investments. Yes, I believe the success of that corner would have ruined me as a business man."

And so on.

THE APPLICATION OF HARDWOOD LAGGING.

One can hardly have helped noticing during the last few years the increasing number of concerns engaged in the buying and selling of second-hand material of all sorts. Particularly is this noticeable in the machinery lines, where anything from a monkeywrench to a locomotive can now be had at second-hand. This field seems, indeed, to be practically unlimited, and is due to the ever increasing and changing demands of the many thousands of manufacturers in the country, who, owing to the



APPLICATION OF HARDWOOD LAGGING AT OSHKOSH, WIS.

excessive competition, which has created the necessity of producing articles at the minimum cost, have had to centralize their power plants and equipment and adopt newer methods of manufacture. The result of these rearrangements has been to throw out of use a never-ending lot of machines which may have been well thought of in their day and were abandoned only because the business had outgrown their usefulness. What was at one time considered more as dead stock now readily finds a market, and it is here where the machinery broker steps in and is a sort of a clearing house for all discarded equipment.

Perhaps the principal products falling into the brokers' hands are boilers and engines, the engine being the greater element of value. Should anyone desire a stationary engine, which for any one of many reasons may have found itself in the hands of a machinery broker, this may be had with but little trouble and at a very attractive price as compared with a new engine. Immediate delivery is also secured and this, in a great many instances, is an important factor and influences the purchase. As every engine is supplied with some sort of a driving pulley or balance wheel, neither of which may be suited to the purchaser's requirements, a proper driving pulley must be provided. The usual course is to proceed to the nearest machine shop and contract for an iron wheel, have it turned for a belt transmission or rope drive, and exchange the old wheel toward the purchase price of the new wheel. A much quicker, simpler and cheaper

method of accomplishing the purchaser's needs in this line, however, has been brought out and is shown herewith in practical use in the application of the hardwood laggings as manufactured by the Dodge Manufacturing Company of Mishawaka, Ind.

The picture shows an engine supplied with a band wheel, to which the lagging was applied, in the plant of the Citizens' Traction Company of Oshkosh, Wis. Here it was desired to transmit greater power than the old iron band wheel would allow. The increase in power was easily accomplished by the application of the lagging, which widened the face of the driving wheel, and with the attending increase in diameter secured, together with the superior tractive qualities of the wood surface over the iron, a material increase in the amount of power transmitted from the original driver was easily made possible. The internal diameter of this lagging was sixteen feet; outside, seventeen feet, with 37-inch face.

It will thus be seen that by the application of the lagging old balance wheels are made valuable for transmission purposes; that a main line shaft-belt transmission may be easily converted into a rope drive and the maximum of power secured, resulting from the saving of frictional losses in the bearings. On the other hand, a rope drive may be turned into a belt transmission, and as the lagging can be made of any width, a wider belt can be used on a flywheel having the lagging; or two or more belts side by side may be employed on the same rim.

As the lagging increases the effective diameter of the flywheel, the linear velocity is increased by the greater diameter, the speed of rotation remaining the same. The familiar fact of greater coefficient of friction or driving power of the wood surface over the iron is also a feature worthy of the most serious consideration.

The construction of the laggings is the result of many years' experience and the use of expensive and special machinery and numerous patented appliances, as well as patents upon the construction as an entirety. After the building-up process, which requires a large force of very active and expert men and almost innumerable appliances, powerful presses, etc., the inside of the rim is turned to accurately fit face of wheel upon which it is to go, being attached to same and face turned for either belt transmission or grooved for a rope drive, as the case may be. This work and alterations in main drives are made with but little loss of time and at small expense when compared with the cost of new flywheels.

BUFFALO'S GRAIN TRADE LAST YEAR.

In spite of the activity of rival routes through Canada and low rail rates to tidewater at the differential ports, Buffalo's grain business for 1900 was up to the average record of that port. The statistician of the Western Elevating Association, on December 22, reported the following as the total receipts by lake for 1900 and 1899:

	1900.	1899.
Wheat, bushels	47,826,458	48,008,014
Corn, bushels	63,359,860	53,843,327
Oats, bushels	28,255,056	26,469,401
Barley, bushels	9,868,196	15,110,672
Rye, bushels	1,314,743	2,260,865
Flaxseed, bushels	7,021,656	7,700,905
Totals	157,655,969	153,398,184
Excess 1900 over 1899	4,257,785	
Deficit 1900 compared with 1898	60,129,542	

The shipments were chiefly by rail, the Erie canal showing again a falling off of business. There were sent to tidewater at New York by canal in 1900 only 5,575,000 bushels of wheat, 6,199,100 bushels of corn and 1,186,700 bushels of oats, against 6,753,000 bushels of wheat, 2,300,000 bushels of corn and 5,700,000 bushels of oats in 1899, or 12,960,000 bushels in 1900, against 14,753,000 bushels in 1899.

The figures, though satisfactory in a way, are not wholly so to Buffalonians, who are agitating the barge canal plan of improvement of the Erie canal as the surest way to retain the port's precedence in the grain trade.

THE SCIENTIFIC METHOD IN GRAIN INSPECTION.

Apropos the directory's investigation of A. G. Slaughter & Co.'s complaint to the Chicago Board of Trade of the character of the "out" inspection at Chicago, the following brief history of the Illinois system of grain inspection and especially the concluding paragraphs will be interesting. The paper was prepared by S. H. Stevens, flaxseed inspector at Chicago, and presented some months ago to the Chicago Board of Trade in support of a plan proposed by him for a national system of grain inspection, which the Board has since indorsed, recommending it to the attention of the National Board of Trade for adoption. The paper has never before been published. Mr. Stevens said:

"There is a large and increasing demand for a national system of uniform grain and seed inspection. Your honorable body, some twenty years ago, set up with innovations and continued a scheme of flaxseed inspection which makes the effort to fill the desideratum possible. The basis of the system is truth, the handmaid of justice, and it is executed by the application of substantiated facts. Its coefficient is the regulation which makes contract seed commercially pure. As the system under consideration must be wrought out on the lines indicated, it is particularly appropriate that your organization, being directly interested and in touch, should take the initiative and stand to the forefront in this important advance of the grain and seed trade of the world. In this movement the Illinois state grain inspection system, by reason of its age and accepted leadership, presents strong claims for preference. Yet its dual existence, in theory and practice, presents an aspect of being too unwieldy to be advanced to such an important position.

"That the workings of the system may be more fully comprehended, I will give an outline of its history and present some weak and strong points.

"It was in the early fifties. The Illinois and Michigan Canal was the only means of transportation to the great valley, for either freight or passengers. The West stood at the threshold of her coming greatness. It was the time when it dawned on the minds of those who move the world along, that railroads would soon dominate transportation. The Galena & Chicago Union and other railroads, in harmony with the times and in compliance with the demands of the teeming prairies, were being pushed forward in the direction of the course of empire. The grain-laden returns to Chicago by the unfinished lines were the precursors of a coming wealth of grain so large that history gave no precedent. Neither had cereal economy made a record of any system or rules to aid or guide in the management of a volume of grain of such assured magnitude.

"Young Chicago seemed to grasp the situation. New and enlarged ideas were developed and rare inventive genius stood forth conspicuous. The culmination of these traits was, in part, a perfected plan of grain storage of unequaled capacity and effectiveness, and a system of grain inspection sufficiently comprehensive to protect all involved interests; as also terminal facilities adequate to the demand.

"New departments of trade came to the front and joined the advancing movement. One of the most conspicuous was the grain commission merchant. The books, papers, and furniture of his office were limited, and what his bank account lacked in inspiring confidence was made up by an aggressive push. The old warehouse grain merchant, whose business had been confined to the prairie schooner source of supply, looked askance at the new bidder for business. In the meantime the new merchant introduced into commercial life an auxiliary no less than the country grain buyer and added to his staff the commercial traveler. Being thus reinforced, his recognition as one of the worthy was not long in doubt.

"The trade realized the absurdity of continuing to mass all grain of a kind regardless of condition or quality, and that to store each consignment

separately and apart was entirely impracticable. Thus the grain and warehouse interest stood face to face with the problem of receiving, storing, preserving and forwarding the cumulative millions of grain from the fertile western plains. The solution came by the application of the power of truth, presented by and to men of sound practical judgment in this wise: 'No hardship or loss could come to owners or consignees by storing all their wheat or other grains of the same kind, quality and condition together in their proper bins, provided each owner or consignee would receive on demand in kind his deposit.'

"The adoption of the new principle of grades in grain storage caused to force a system of grain inspection.

"As customs have existed in all countries before statutes, so Chicago grain inspection began prior to written rules. At first the knowledge of the all-round man who 'knew grain' was utilized for the purpose of designating the grade of all grain going to store. In 1856, the Board of Trade decided that it was due to themselves and to the trade to give voice to the workings of their system of grain inspection and also to thereby furnish a guide to the knights of the trier. But little was done that year other than to name grades of certain kinds of wheat. In 1858, a committee was appointed and grades were affixed to the more salient qualities of all grain going to store.

"The first record extant defining the grades of wheat is dated August 9, 1859. It is probable that all the different kinds of grain received the same attention at that time, as they existed and bear the impress of the same talent. It is evident that the members of the committee were not accustomed to the framing of exact definitions. Neither does it appear that they were familiar with their subject. Had they previously, with the slotted tube and plunger, sought in grain ears the hidden mysteries of the country shipper, or drawn conclusions by the aid of the testing scale, had they contended with the wily elevator man in his murky den, or trained the youthful helper in the intricacies of the art, they would probably have had a better grasp on the work in hand. Therefore the practical part of the great grain inspection system, receiving but little aid from the adopted rules, pursued the even tenor of its way, subject only to wisdom's growth. To-day it stands forth the embodiment of the practice of a long line of honored experts, an aggregation of their experiences, which no man can formulate. In 1871, the department passed from the jurisdiction of the Board of Trade to that of the state of Illinois. In the economy of the office there were many changes, but the rules and practical work remained much the same.

"The inspection rules now in force in Chicago have been subject to revision for the last forty years, yet they retain their primitive characteristics. No one can peruse them without becoming conscious that the true principle, the vital part, is absent.

"I present as a type, the definitions of the rules governing the contract grades of grain in Chicago to illustrate the truth of the assertion:

"No. 2 Spring Wheat 'shall be sound, reasonably clean, and of good milling quality.'

"No. 2 Corn 'shall be mixed Corn, dry, reasonably clean, but not good enough for No. 1.'

"No. 2 Oats 'shall be reasonably clean and reasonably free from other grain.'

"No. 2 Barley 'shall be healthy in color, not sound enough and plump enough for No. 1, reasonably clean and reasonably free from other grain.'

"And so on, ever more and nothing more, until sixty odd grades are evolved. The value of the rules and the practical working of the department under them is thus presented by one of the oldest of chief inspectors.

"The written rules serve as a guide rather than an infallible standard for the inspector. Upon his judgment the final and practical application of the rule necessarily depends. Having fifteen men on as many tracks remote from each other, we should soon have as many different standards as men, but for our system of supervising inspectors. Every

day they go from one track to another watching the work of the inspectors and correcting any tendency to deviate from the well understood and established standards of the department. It is very seldom that a helper becomes fully qualified for the position of track inspector under six years.'

"The extract gives conclusive evidence that in the department the trier is mightier than the pen. It gives also a view from the inside of the twofold system resting on written and unwritten rules, the one being merely a catalog of grades, teaching nothing; the other, in charge of those rare men who, with the precedents of their calling engraved on their memories, grade the grain as their judgment dictates.

"Should the vitalized principle of percentage, known in flaxseed inspection, be incorporated into grain and seed inspection regulations, grading will be less subject to the uncertainties of human opinion."

PROPOSED CHANGE IN THE ELEVATOR LAW.

The warehouse committee of the Chicago Board of Trade has prepared a bill which is aimed to prevent public warehousemen from mixing, storing or dealing in grain on their own account in such public warehouse. The bill has had the approval of the board of directors, and it will be recommended to the Illinois Legislature for passage. The bill proposes that Section 6 of the act now in force be amended, as follows:

It shall be the duty of every warehouseman of Class A to receive for storage any grain that may be tendered him in the usual manner in which warehouses are accustomed to receive the same in the ordinary and usual course of business, not making any discrimination between persons desiring to avail themselves of warehouse facilities, such grain in all cases to be inspected and graded by a duly authorized inspector and to be stored with grain of a similar grade received at the same time as near as may be.

In no case shall grain of different grades be mixed together while in store; but if the owner or consignee so requests, and the warehouseman consents thereto, his grain of the same grade may be kept in a bin by itself, apart from that of other owners, which bin shall thereupon be marked and known as a "separate bin." If a warehouse receipt be issued for grain so kept separate it shall state on its face that it is a separate bin and shall state the number of such bin, and no grain shall be delivered from such warehouse unless it be inspected on the delivery thereof by a duly authorized inspector of grain. Nothing in this section shall be so construed as to require the receipt of grain into any warehouse in which there is not sufficient room to accommodate or store it properly, or in cases where such warehouse is necessarily closed.

Any owner, proprietor or lessee of a public warehouse of Class A who shall store in such warehouse any grain owned by him or in which he shall have any pecuniary interest, or any stockholder, director, officer, superintendent, manager, or agent of a corporation which is the owner, lessee, or proprietor of a public warehouse of Class A, who shall knowingly store or participate or assist in storing in such warehouse or such corporation any grain owned by such corporation, or by any stockholder, director, officer, or manager of such corporation, or in which he, it, or they shall have any pecuniary interest, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be imprisoned in the county jail not less than six months nor more than twelve months.

Most of the exchanges had the New Year's Day rough and tumble frolic as usual on December 31. At Toledo, however, the popular minstrel show of a year ago was repeated with variations and was a hit.

Canadian grain shippers who had been congratulating Quebec on the completion of the new elevator and grain route from Parry Sound, find that the success of the port is likely to be interfered with by the excessive marine insurance rates. The actual dangers to shipping of the lower St. Lawrence and the gulf of that name naturally have led to the high rates, which no sentimental considerations urged upon the British underwriters have been able to mitigate. A movement is, therefore, on foot in Canada to establish a Canadian Lloyds to handle this business, it being urged that the real dangers are much magnified by the insurance men across the water.

Court Decisions

[Prepared especially for the "American Elevator and Grain Trade" by J. L. Rosenberger, LL. B., of the Chicago Bar.]

Violation of Strict Terms of Agreement Releases Sureties.

A dealer in grain was indebted to a local bank for a considerable overdraft. He had also received a quantity of wheat from farmers for which he had agreed to pay the market price on demand. But having no money to pay for the latter, he arranged to execute a note to the banker to raise money to pay for the wheat and carry on his business; that is to say, he got several sureties on the note who knew nothing of the overdraft, but understood the object to be as just stated. The banker also knew what their understanding was. Nevertheless, sufficient of the proceeds of the note was applied to pay the overdraft, and most of the balance was used in the dealer's business. This diversion to the payment of the overdraft, however, the Supreme Court of Iowa holds (Crossley against Stanley, 83 Northwestern Reporter, 806), under the circumstances worked a release of the sureties. A surety, the court says, may stipulate for the particular use of a note as a condition of signing it, and he may insist on the strict terms of his agreement; and if material alteration is made without his consent, notwithstanding it inure to his benefit, he will be discharged. This is the case, at least, where the holder of the note has knowledge of the condition, as in this instance.

Liability for Not Having Grain Reinspected and Promptly Sold.

A grain buyer shipped a carload of wheat to a firm engaged in the business of selling grain on commission in Minneapolis. The car, containing 625 bushels, reached the consignees on June 5. At that time and for a day or two thereafter No. 2 Northern spring wheat was worth \$1.23 per bushel. Nevertheless no final disposition of the grain was made until July 15 or 18, when 565 bushels were disposed of at 98½ cents per bushel, while the balance was later sold at 52½ cents per bushel. In consequence, the shipper sued the firm for damages and obtained a verdict for \$178.28, being the difference between what the grain actually brought and what it would have brought had the consignees performed their duty with reference thereto. And this judgment entered in the shipper's favor is affirmed by the Supreme Court of South Dakota on appeal. (Case of Walker against McCaul, 83 Northwestern Reporter, 578.)

The wheat was bought by the shipper from producers and all except a few bushels was loaded into the car from wagons, was run through a fanning mill before the shipment was made. He testified that it was all nice, clean looking wheat, and was bought of the farmers for No. 1 Northern grade, which was worth in Minneapolis 10 cents per bushel more than No. 2 Northern. With the exception of an odor something like that of brown paper, which pervaded one load of about 35 bushels, the entire carload of wheat was, he insisted, of fine quality and uniform grade.

On the other hand, from the testimony of the consignees it appeared that on arrival at Minneapolis the car was graded No. 2 Northern, and was sold on the 7th of June for \$1.23 per bushel, but on account of the odor and other alleged damaging conditions, the purchaser refused to close the transaction; and that the consignees wrote the shipper to the effect that the car contained a great deal of poor wheat, and that on reinspection by the proper authorities it would surely grade rejected, and for that reason they would avoid further inspection. A day or two later they again sold the wheat for No. 2 Northern at \$1.10 per bushel, but rescinded this sale and notified the shipper that the purchaser had found at least one-third of the car at the ends and bottom much damaged and inferior in quality to the sample used in making the sale, and advised him that it would be best to unload the car at the elevator and have the wheat cleaned and mixed back, before attempting to dispose of it. This be-

ing done, the carload with the exception of from 50 to 60 bushels, which was kept out was again inspected and graded No. 1 Northern and was sold for 98½ cents per bushel July 15, as previously noticed. On the 18th of that month, after selling the balance at 52½ cents per bushel, they wrote the shipper that it was the very best that could be done with the wheat, as the same was fire burnt and unsalable for every purpose but chicken feed. Soon afterward, however, and apparently before anything else had been done with this wheat characterized as "chicken feed," the shipper bought it from the purchaser and in the same condition procured a reinspection thereof, which resulted in the same being graded No. 1 Northern.

The record, the Supreme Court goes on to state, disclosed much evidence tending to show the utmost good faith and exercise of care on the part of the consignees. But the conflicting evidence having been submitted to a jury under proper instructions, it says that the only question to be determined on appeal was whether there was evidence to sustain the verdict when considered independently of the case made by the adverse party, or consignees. And the court thinks there was. When considered with all the circumstances disclosed by the record, it declares it cannot say that the failure to have the wheat reinspected, the retention of the same on a declining market, and the sale of a portion thereof for chicken feed, which afterward graded No. 1 Northern, were not enough to justify an inference on the part of the jury that the consignees were negligent.

Wagon Scales as Part of Realty.

The question was raised in the case of Thompson against Smith (83 Northwestern Reporter, 789), whether certain wagon scales, which had been sold conditionally and had not yet been entirely paid for, had become part of the real estate so that title to the scales would pass by a sheriff's deed of the lot to a purchaser who had had no notice of any claim against the scales. This question was carried up to the Supreme Court of Iowa. The court to settle the question calls attention to the fact that the scales had been put in by the owner of a feed mill at a time when he began dealing in grain for shipment and mainly for that purpose, although he weighed grain thereon to be ground in the mill; that the scales rested on a foundation wall of stone and mortar within which the platform hung; that from beneath this platform the supporting rods extended through the wall under the building through its floor to the beam on the inside, where the weight was ascertained in the office of the mill, which said office also was used in carrying on his grain business, and that it might be assumed that, as large amounts of grain were weighed, the fastenings were sufficient to hold the scales in their proper place. So, while the scales may not have been physically attached by bolts, nails or cement to the land, the court emphasizes that they were nevertheless held thereto by being so mechanically fitted as that the platform hung within the wall supporting it and erected for that sole purpose, the supporting entering the building through its walls and floor, connecting with the beam above, and that besides such scales are ordinarily placed for permanent use in connection with particular real estate.

Nor does the court consider it of controlling importance that they might have been removed by taking apart without injury to the land, although this might have some weight in determining the intention with which the attachment was made. And the court's conclusion is that everything indicated that the scales were intended to remain permanently where located and to be continually used in connection with the land; the character of the foundation, the connection with the beam inside, their convenience in the party's business, both as miller and dealer in grain, all pointed to that result. Hence, the court holds that the purchaser in question of the land and its appurtenances got title to the scales, as probably would have a purchaser without notice from the miller and grain dealer.

A seat on the New York Stock Exchange sold on December 19 for \$52,000.

[For the "American Elevator and Grain Trade."] RUBY HANKLESPIEL VISITS THE CHICAGO BOARD OF TRADE.

BY RUBY HANKLESPIEL.

After mine vife, Katrina, hat decisioned dot I might go der Chicago Poardt of Tradt on, I set to mine oldt friendt Hements (Hements is py der gommision hous whadt mine grain is expressioned to—"Hements," I set, "I vill make myself bleasur to acquiesendet in your invitationugs to come py dot poardt unt see der magking of dose high briess of der corn unt der wheat crops."

"Vell, vell, Ruby, old friendt," Hements set to me, "dot gifis me more bleasuriugs as if you hat bot me der whole elefater of wheat embty for future shibments, unt ven ve haf seen der bears make some excursionings on der floor of der poardt, I vill dake you some ridings in der city outd in mine oughtomobull."

Dot gafe me such a surprisings. "Hements," I set, "I haf not known sooner alretty yet thadt yon was possessiondet of an oughtomobull unt I must inquisitiondet if thadt is petter than der oughtomobear." But mine oldt friendt he only laffet at mine expressionings.

Der more I lif alretty der more I vill neffer fogedt der time whadt I madt dose spatzier-gangings in der Eggschange mit mine friendt Hements. Ven ve haf arrift I haf alretty for some time before yet heardt der noise of roarinks, unt I inquisitiondet vor Hements if dere was a sawing mill close py.

He explanationed to me dot der noise wat I hat heardt was der magking of der high briess, so I valked myself runnink to der enterencing of der Eggschange to vissiondet der lulfy site.

Mine graciousness! Such a surprisings! Before I hat madt myself insidt alretty I hat pushedet myself against a lulfy bunchings of men whadt was shagking dere fists in der others faces. I set to wun: "Is it thadt you are mat alretty yet?" He interogationed: "To I look mat?" I replissioned: "You dondt look mat yourself py der face alretty, but you look mat in der fists." But befor he eoud replissioned to my interogationing some wun pushedet him down unt jumpet on him, unt a feller wat I heardt called wun uf der "lonks" stuckedet two fingers in mine faces outd: "No," I set, "I haf neffer learnet to swim." But he was gone away alretty yet.

Then I looketed aboudt me aroundt unt I saw thadt a grate pattle was in progressioning. Dere was two gompanies surrounditining mit one anotherer unt effry wun was attempting to pushet the otherer to der insidt outd. Der floor of der Eggschange was coffered ofer mit corn unt oats unt der noise of der pattle was like der valling of der Niagara.

But I hat some curiosities unt I turned myself insidt outd to Hements unt set: "I haf some eggs-citings in mine inmaginationings to knowledgation to myself as to vitch is der elefater man unt vitch is der gommision man, unt vitch is der track puyer?"

Unt Hements madt some answerings: "You make me some misunderstandings alretty. Der elefater man is der same as der track puyer," unt mit dat he pointedet me outd to a man whadt was valking aroundt together mit himself alone by his hands in his pockets.

Mine graciousness! I hat neffer vissinedet such a splendifitless. I set to Hements: "Does he onnet der blace?"

"Not alretty yet," replissioned Hements, "he has only yet some desirings to ounet it unt ven he ownets it look somethings out for der low briess."

"Vell, vell," I set, "he is certingly a lulfy bunching."

I heardt der clock striket und ven it was ofer dere was a grate explosioning und effry wun hed let up his hands und grite for hellep. "Hellep, hellep," I grite but der noise was drowndet in der roarinks und at der moment Hements grabbet me und took me avay for lunchenings.

Chicago Board of Trade seats are still valuable.



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ADVERTISING.

This paper has a large circulation among the elevator men and grain dealers of the country, and is the best medium in the United States for reaching persons connected with this trade. Advertising rates made known upon application.

CORRESPONDENCE.

We solicit correspondence upon all topics of interest connected with the handling of grain or cognate subjects.

CHICAGO, ILL., JANUARY 15, 1901.

Official Paper of the Illinois Grain Dealers' Association.

THE SUBSIDY BILL.

Whether the Hanna-Payne ship subsidy bill becomes a law or not is a matter of no practical moment to the grain dealer in its direct effect upon his business. The subsidy will neither get him a new market nor reduce his freight bills by one penny per ton. The ships that are expected to earn the graft carry little or no grain; and if the subsidy shall have any influence whatever on grain freights it will operate to give the subsidized lines a monopoly of the trade to the extent of their carrying capacity, as Jim Hill of the Great Northern long ago pointed out.

The debate on the bill has, however, revived the familiar grain export bounty scheme of David Lubin of California, whose ideas have been presented to the Senate by Senator Allen in the form of a substitute for the ship subsidy bill, by providing for an export duty of 10 cents per bushel on wheat and rye and 50 cents per barrel on their flours, 5 cents per bushel on corn and 7 cents per cental on cornmeal, etc. There is less expectation that this substitute will become a law than there is of the original bill, preferable as it is as a gift measure, and this, too, in spite of the overwhelming objection to the substitute that it would result, as do all such bounties, simply in taxing Americans for the direct and sole benefit of the foreign consumer.

Much more commendable legislation than either would be the negotiation of reciprocity treaties to open up new markets for American cereals and agricultural products. But of this, too, there is little hope. Several such treaties, although not of much value to the grain interests, now held up by the Senate, show that there is little hope of getting new markets in this way so long as the dry rot of senatorial

"courtesy" prevents the treaties being acted on while any senator objects in the interest of some great or petty interest in his state affected by the reduced tariffs named in the proposed treaties.

1900 AND AFTER.

The year 1900 was a great business year. Not so great as 1899, but, in spite of a presidential campaign, a year of great prosperity. Our foreign trade continued to expand, although the volume of grain exported declined somewhat. Speculation in cereals was less active than in 1899, being especially dull during the last few months of the year; but while prices as a whole were slightly lower than in 1899, those of farm products showed less decline than manufactured goods. Business failures were rather more numerous than in 1899, but fewer than in 1898 and 1897. Labor was well employed and all business in a generally healthy condition. It was indeed a year of prosperity.

The outlook for the future is excellent. The wild speculation of "trust" promotion has spent itself, and many big corporations are now actually being managed for the stockholders rather than for the stock brokers. All trade is good. Crops abroad are rather below than above normal, insuring a continuance of our heavy grain and flour exports. The threatened money squeeze that might have been expected to follow the troubles of financial companies recently reported from England and Germany have not materialized, so that there appears no lessening of European ability to purchase our exports, but only a continental or German determination not to do so.

Meantime, a good crop of all cereals in our own country is in course of movement, and the grain trade is as busy as a car shortage will permit it to be. We believe our readers will have another prosperous year.

THE CENTAL IN THE GRAIN TRADE.

It might be an ungracious task to antagonize those of our Ohio friends who are getting excited over the cental as a grain buyer's unit did one not labor under the suspicion that they are being worked. The 100-pound unit may be very beautiful theoretically; but are the practical inconveniences of the bushel as a unit so serious after all as to warrant the introduction of another and larger unit which is not likely to meet with legal recognition anywhere and which runs counter to the prejudices and habits of the farming community and the long-established standards of the trade?

But more to the point is the fact that the introduction of the cental unit would certainly and materially reduce the profits of the country grain dealer. He now conducts his business to obtain a certain profit on each bushel (of 56 pounds) of corn he handles. Competition has reduced that margin to the very narrowest margin. Suppose the dealer should now deliberately change that unit from 56 to 100 pounds. Is it not absolutely certain that within a few weeks—in some sections, where competition is very acute, within a few days—he would be handling 100 pounds of corn for

exactly the same profit that he is now trying to get for handling a bushel of 56 pounds?

In other words, the grain dealer who would adopt the cental in place of the bushel would add 44 per cent to his risk of missing grade; would have to add 44 per cent to his elevator capacity, and would add 44 per cent to his other handling expenses, and yet he would take in the end only the same profit per unit, thereby substantially cutting his profit in half. The simplicity for which the cental is praised is itself a strong objection to it from a business standpoint; for there's such a thing as taking the public too much into one's business confidence.

A little reflection on the part of grain dealers ought to impress on their minds the utter folly of this movement, which can be commended only on theoretical grounds and is open to practical objection from every point of view as a business proposition.

THE DEFAULT EVIL.

The last and the present shipping seasons for corn have been very trying ones to shippers, owing to the scarcity of cars and the uncertainty of obtaining them as desired. Under the circumstances receivers under contracts have been very considerate in their treatment of shippers who have honestly done their best to fill their contracts in the letter and spirit. The amenities of the trade have been well preserved, considering the aggravating conditions.

It appears, however, that not a few dealers have taken advantage of this leniency to abuse it by deliberate defaults, apparently acting on the theory that if they choose to fail in their agreements, the receivers have no rights in the matter except to cancel the contract or extend the time of shipment indefinitely. Of course, no shipper who is intelligent enough to do business at all is ignorant of the fact that this is not a legitimate business proposition in any sense.

The exporters are particularly complaining at this time, and while they do not claim that Illinois dealers are at all singular in the fault complained of, a typical case from Illinois is, among many, referred to our notice by a New Orleans exporter. A firm rated at \$100,000 sold 15,000 bushels of corn for export, shipment December 15, at 32 cents, and on December 7 sold the same firm 5,000 bushels, quick shipment, at 35 cents. The firm shipped the 5,000 bushels quick shipment, but defaulted the 15,000-bushel contract, alleging "lack of cars," yet the exporter has every reason to believe the firm sold and delivered prior to December 15, 10,000 to 15,000 bushels of corn to other parties at better than 32 cents, thus pocketing the extra 3 cents per bushel, but letting the exporter buy corn at the seaboard at a heavy premium to fill his freight engagements.

This default, of course, gives the exporter a right of action for damages, and there is no question of his legal right to recover a judgment, but that is not the point, which is that this custom of arbitrarily defaulting is getting to be a serious evil, which, if continued unchecked, will certainly demoralize the export business. Just what can be done, except for

the exporters to repeatedly mullet the defaulters in damages, does not appear, unless, perhaps, the grain dealers' associations can invent some way to put a curb on the practice.

TRACK BIDDERS' CARELESSNESS.

The necessity of track bidders revising frequently their lists of dealers to whom they send bids has been agitated very often, and yet, judging from some discoveries recently made in Iowa, it would seem that when once a name found its way to a track bidder's list not even death or removal, pestilence or famine, could secure its erasure. In the locality where the "interesting discoveries" were made, it was learned that a former dealer, now four years a farmer, was still getting track bids. Another farmer who had not been in the grain business for eight years was still getting regular quotations, and in the same vicinity a hotel proprietor was being favored with bids at regular intervals, although four years had elapsed since he had made a grain shipment.

One of Rome's great orators, in an eloquent climax, said: "It is an outrage to bind a Roman citizen; to scourge him is an atrocious crime; to put him to death is almost a parricide, but to crucify him—what shall I call it?" So, too, in grain trade ethics, it is a venial sin to send a track bid to an ex-dealer in grain. If the practice is continued for eight long years after he has quit, what shall we call it? Quite an interesting item might be made simply on the expense entailed in keeping these former dealers posted for so long a period.

Lists should be revised often. It is both a needless expense and mighty bad business to keep men posted in the grain business who are not entitled to the information. The practice, indeed, becomes a serious detriment to the regular trade if continued indefinitely and on so large a scale as it has been done in Iowa.

THE INSPECTION PROBLEM.

Is there one standard for inspection of grain "in" and another for grain "out" of a public elevator at Chicago? Perhaps not, but certainly Slaughter & Co.'s recent experience has fairly suggested the question. The story goes that the firm named, late in December last, were offered twenty-two cars of wheat as No. 1 Northern. The firm's private inspector did not like the grain, and Supervising Inspector Smilie rejected three cars but called the rest No. 1 Northern. The delivering elevator took back three more cars on its own motion, but tendered the remaining sixteen. One of these, properly sealed and marked, was then run out of the city a few miles and then brought back, consigned to a commission house. It was thereupon inspected "in" as No. 3 Spring, and Mr. Smilie approved the inspection, refusing to grade the stuff No. 1 Northern because "bleached and damaged."

This certainly looks like a "horse on the department," which, like the boy detected in a compromising situation with jam smeared over his face, has nothing to say worth mentioning. The same firm last October had a somewhat similar experience.

The two episodes may be merely evidences of "errors of judgment." The inspection has nothing scientific about it, not even so much

as the Minnesota method of docking for foul seeds and chaff, the amount of which can easily be computed with reasonable accuracy. But whether fairly so, or not, the impression prevails that the present method of conducting private business in public elevators is largely responsible for the complaints of bad inspection out. As some wit on the Board has suggested, the one point on which the elevator specialist is silent is the Board's commandment, "Thou shalt not commit adulteration." But they all do it. They sort out the public's grain and their own; they mix and they sophisticate it—as Irwin, Green & Co. said in their sensational circular of December 27, they can literally manufacture 614,240 bushels No. 1 Northern in two weeks and not turn a hair; and, naturally, having grain of their own in their houses along with that of the public, they deal out to the latter only so much of the good grain as they are compelled to deliver on warehouse receipts, and keep the remainder. Elevator men are human, and business is business. The system is wrong, whether the inspection department does or does not knowingly play into the elevator men's hands.

JUDGE TULEY ON THE ELEVATOR LAW.

Judge Tuley of Chicago, after a year's deliberation, has declared unconstitutional the amendment of 1897 to the Illinois public elevator law, which permitted public elevator men to handle their own grain in the public elevators operated by them. The law was found to be inconsistent with article 13 of the constitution of 1870, which makes a public warehouse a public agency, controlled by the state in the interest of trade, of producers and shippers, and it was held that if the owners of the elevators are by law given the right to mix their own grain with that of the public such privilege would defeat the purpose of the prohibition of Article 13 and give the warehousemen a monopoly of the grain trade of Chicago, which is against public policy.

The decision is very long and technical, but the above is the gist of it practically. The chancellor said he appreciated the consequences to the trade that may result from the ruling, but he looks to a time when the United States government will be compelled to take cognizance of the public elevator system and treat it as a part of the interstate commerce system—links in the grain transportation system of the country. Meantime the states must control it in the interest of the public.

The decision is not expected to work an immediate revolution in the trade. The fight for the privilege will be continued by the elevator men, and private use of public elevators and public grain will go on indefinitely, for the reason that it will be appealed to the Supreme Court of the state, and if it is sustained there it will be taken to the federal courts. "It will be years before a decision in the highest court can be reached," said an elevator man.

The wisdom and justice of the decision will not be questioned, and it is a victory for the spirit of fair play that the upper courts are sooner or later certain to confirm. Nor will it destroy the public elevator, as Mr. John S.

Hannah has intimated. On the contrary, there is every reason to believe that when the public elevator again becomes such in fact as in name the demand for its services will be increased rather than diminished.

COMMERCE COMMISSION REPORT.

The annual report of the Interstate Commerce Commission is neither creditable to the railroads nor encouraging to shippers. It says there have been unjust discriminations in rates and illegal pooling of earnings, as well as increase of rates—directly made, as by the Buffalo pool, and indirectly by arbitrary reclassification. None of the many specific violations of the law appear to have been permanently corrected.

The Commission's only remedy in the premises is an indorsement of the railways' own solution of their side of the problem—a law permitting pooling. The Commission say that equal charges for equal service cannot be secured so long as competition continues; that if transportation is sold as a commodity, the largest purchaser will most of the time, if not all the time, get the best terms.

There is much truth in this, but will all be treated alike under a pooling system? Were all so treated when pooling was practiced? But why stop with making pooling permissible? If that privilege is a specific, past experience of shippers warrants the demand that pooling be made compulsory. The railway men themselves have long since admitted the impossibility of themselves enforcing their own gentlemanly or ungentlemanly agreements. What more reason now is there, then, to expect that the pooling privilege, if made permissible, will become a permanent remedial agent than it was fifteen years ago, when it was not illegal?

The railways' alternative, the consolidation of all the lines into a few great groups, is by no means affrightful. It would greatly simplify the proposition, since government supervision, on behalf of the public, is bound to obtain in some form; railway abuse of the public and themselves has made this imperative, for there is no other way of protecting the thousand and one towns now the victims of local pool exactions and inequitable charges for short hauls, while the roads storm heaven and earth to protect themselves against themselves in the distribution of the business between hardly more than a score of metropolitan terminals, which alone have enjoyed the privilege of competitive rates at any time.

This view is warranted by the recent suggestion of E. J. Jeffrey of the Denver & Rio Grande, who, ridiculing the fear of a gigantic consolidation of lines, said: "Let the railway managers carry out the plain purposes of the interstate commerce act, let them treat all shippers alike, and make changes in rates only after giving public notice, as required by law. If this is done there will be no need of combinations to try to control the traffic." "But what would become of the weak lines if the law were obeyed?" he was asked. "They would go out of existence. That is the natural law; and I see no reason why the weak railway lines should be forever upheld by those that are able to take care of themselves,"

EDITORIAL

MENTION

Try to hold your own, but not your neighbor's.

Be independent, of course; but don't be either a porker or a mule.

The tried and true commission man was never so useful to the country dealer as he is to-day.

With only about 1 to 2 per cent of the corn grading contract, it behooves the elevator man to do a little inspecting himself on the wagon.

Now the Germans are complaining that American corn is arriving in bad condition. But then, the Germans seem to be cultivating the kick habit nowadays.

Some dealers don't know what "cost" of handling grain means. They are the kind of men who are always raising hades down their way and wearing patches on their pants.

Governor Tanner, in his farewell message, put in a plea for the old Illinois and Michigan Canal of Illinois. Let it be hoped the successors of his canal commissioners will be able to find the Chicago end of it.

The revenue act is not reformed yet, even if the ways and means committee has made its report. The Senate will have to get in its oar yet, and the Senate is strictly "it" nowadays. It needs watching and punching, too.

It is said the Standard Oil people are about to erect an immense glucose factory in New Jersey near New York to "compete" with the American company at Chicago. A sort of "limpid sweetness, long drawn out," so to say.

The House seems to have made up its mind to reduce the beer tax in preference to the taxes on the grain trade, but an appeal will still lie to the Senate, whose members should be appealed to directly by every individual in the trade.

The excursion of the Kansas Grain Dealers' Association into Texas a year ago was so pronounced a success that the Association is now figuring on a similar trip to New Orleans, via Little Rock and Memphis, after the coming annual meeting.

A grain dealer at Decatur thinks the car famine a blessing in disguise, for if cars were plenty the rush of corn to market would stompede prices. Well, at least there is nothing like being jolly under all circumstances, as Mark Tapley used to say.

This is the season when the seed men rise up in arms at the government's free seed distribution, which is the meanest kind of mean competition, because the government gives its seeds away and pays the cost of delivery. As a sample of the modern legislator's penchant to make contemptible grabs or to buy a "cheap-skate's" political notice at government ex-

pense, the seed distribution is the acme. It is really beneath contempt.

Most shippers who have the market go against them probably start out wrong by overestimating the market grading of their stuff. In buying they too often give the benefit of the doubt to the seller and not to themselves. This is the best kind of a year to do it the other way.

The Iowa Grain Dealers' Association has with much success urged its members to personally telegraph members of Congress an appeal for reductions of stamp taxes paid by the grain trade before any are made on beer and tobacco. This excellent program should be imitated by grain dealers in all parts of the country.

The reduction in Chicago public elevator storage rates promised a year ago is announced, taking effect January 1. Last year the rate per day for periods in excess of ten days was 1-40 of 1 cent per day per bushel; this year it will be 1-50 of 1 cent, or \$1 per day per 5,000 bushels. The rate for the first ten days is 3/4 of 1 cent per bushel.

A Kansas philosopher says that so long as it costs 17 cents per bushel to get grain from Beatrice to Chicago, 500 miles, and only six cents to get it from New York to Liverpool, the necessity of paying a subsidy of \$270,000,000 to cheapen freights to British consumers is not quite apparent to the man who has but recently turned his sod house into a pig shelter.

The operators of grain driers should be cautioned against overdrying corn while conditioning. In case of excessive drying, as the glucose people claimed, when some time since they rejected certain kiln-dried corn offered as No. 2, the skin becomes brittle, so that with handling it cracks and the starch of the grain sifts out. Drying to this extent is unnecessary for practical conditioning and can be avoided.

The failure of the Peavey concrete elevator at Duluth is not regarded by engineers as evidence of inherent weakness in that type of construction, but rather that either there was some error in the structural details, which are much different from the Monier system in use in Europe, or else use of the house was made too soon after its erection; most probably the latter. The Monier system has given good results abroad. It is to be hoped and expected that the Duluth house will yet prove the wisdom of its architect and owners.

Having filled up the Lockport-Bridgeport end of the Illinois and Michigan Canal with the solids of Chicago sewage, the agents of the latter city now want to complete its work of destruction by abandoning the Bridgeport pumps, which have been run for several years past to keep enough water on top of the sewage to float a canal boat. The courts have stepped in with an injunction against such a step, nevertheless the grain shippers who still use the "old ditch" eastward of Joliet should keep an eye on the pumps next season, and also on the canal commissioners, whose habit of traveling long distances to eat good dinners

at the canal office at Lockport is hardly compatible with due care of the canal, in view of its present limited revenue.

The reëlection of President Warren of the Chicago Board without opposition is a proper tribute to an administration that has merited the distinguished consideration of that body and the public. The effort to suppress public gambling in grain, though not, thanks to the courts, entirely successful, has accomplished much. And if the efforts of the Chicago Board were but heartily seconded by the other exchanges of the country and by the police authorities of the minor towns of the country, that most demoralizing influence might be wholly suppressed.

A few days ago the railway attorney fighting Spencer Kellogg at Buffalo, who complains of discrimination, declared that a railway may make particular rates under specific conditions and for certain classes of persons—may make the rate higher or lower than the usual rate without entitling other shippers to the same rates. And he defied Mr. Kellogg's attorney to cite a decision to the contrary. It is well known that railways follow this outrageous rule, but this is the first time it has ever come to our notice that they exercised it as a legal right. If it is a right it is high time, in the interest of fair play, that it be taken away from them.

The railway man's objection that the critical defect of canal transportation is the time element is not a valid one. The products that take the canal routes are not seriously affected by the time element; besides that, where the water routes are properly constructed the time element is provided for by steam propellers and may yet be even better guarded by electric propulsion. The problem of water transportation is not so much complicated now by its real difficulties as it is by the insane clamor of engineers to build uselessly deep and badly located canals at such enormous expense that the taxpayer is so appalled by the magnitude of taxation that he rightly rebels, carrying his objections even to the limit of killing legitimate improvement of waterways.

The car famine continues to act as a break on the movement of grain from the farms. The worst of it is that there seems to be no sign of relief, especially from the eastern roads, which, while apparently taking care of regular customers, are furnishing not above 50 per cent of the cars called for. The situation is not healthful. Elevators are so crowded that they are refusing to accept more grain from the farmers or are handicapped in filling contracts, and everybody in the trade is beginning to get mad over the long continued aggravation. The farmers are beginning to think the country elevator man could get the cars if he wanted to pay the market price for the grain, while the exporter, who has his contracts arbitrarily canceled by the country dealers, thinks unprintable things about the men who will descend to that sort of business dishonor. We have no panacea to offer under the circumstances, but will be allowed, no doubt, to propose that all keep their tempers as well as they

can under the circumstances until relief does appear, and, above all, advise care in making contracts which it may be impossible to execute.

Representatives of the Chicago Board of Trade, who called on Gov. Yates in December to urge the appointment of practical grain men and shippers to the railroad and warehouse commission, did not get much encouragement, perhaps; but it should be remembered that all the world was seeking state jobs then from his excellency, as yet unseated. In view of last year's experience in the grain office in Chicago, it can hardly be expected that the governor will wholly ignore the wishes of the Board and the grain trade of the state in making these appointments.

The twenty-fifth annual report of Secretary W. L. Barnum of the Millers' National Insurance Company of Chicago for 1900 shows that excellent company to be as prosperous as ever. The entire assessments levied during the year amounted to only 9 per cent of the deposit notes in force, or 45 per cent of the annual rate charged for the same insurance by board companies. In other words, that the mill and elevator owners insured in the company saved 45 per cent of the premiums demanded by board companies on those risks. The average saving for twenty-five years has been 50 per cent of board rates.

The annual report of Gen. Wilson, chief of army engineers, on the cost of channels in the Illinois River from Joliet to the mouth of the river, concludes by recommending an 8-foot channel as ample for all existing navigation in the Mississippi Valley. It says that the cost of a 14-foot channel, which the Chicago drainage canal engineers are asking for, would hardly be less than \$30,000,000, and is an undesirable improvement, at least unless continued as far as St. Louis. This seems like a sound recommendation, but as the private engineers seem to have gone daft on the subject of ship canals across the prairies on lines at right angles to the great grain routes, it is not satisfactory; so that \$200,000 for a new survey for a deep canal are provided for in the House river and harbor bill. The public, which pays the bills, will probably have to let it go at that, but it would be a relief to have a sailor's or a disinterested shipper's opinion on the proposed ship (?) canal, as opposed to an 8-foot barge channel.

The "loading fee," agitated to some extent in certain states and by the National Association of grain dealers, does not seem much, if any, nearer consummation now than it did several years ago. Indeed, not so near, for during the past few years certain eastern roads which formerly paid their local elevator men such a fee have discontinued doing so. One difficulty in the way of this movement would seem to be the legal doctrine that railway corporations are common carriers, but not warehousemen—are not, in short, authorized to operate depositories for hire. The Supreme Court of the state of Louisiana recently formulated the general doctrine by saying that the railroads are authorized under their charters to receive goods for storage in warehouses

only as such storage is strictly incidental to their business as common carriers. Of course, the line in the grain trade between "incidental" and "permanent" storage may be conceived as technical wholly, but argument of the legal merits of the question of the "loading fee" would, on objection to the latter, certainly involve the question just presented.

At this late date, when the company seems to be judiciously managed and to be recovering its wind, it seems somewhat like reviling ancient history for Ernest Pfarrius to bring suit to compel the American Malting Co. to render an accounting. Mr. Pfarrius says he will prove that quarterly dividends were illegally paid eight times in succession at 1 1/4 per cent per quarter; that they were not earned as the law requires, and that the company was one of the "blindest pools ever launched in Wall street." Bless us, that's no news, even to the mariners; and if that were all Mr. Pfarrius has to say one might remind him of the infant's epitaph—

Since I was so quickly done for,
I wonder what I was begun for.

But it appears that Mr. Pfarrius wants the court to order the directors to pay him the difference between the price he paid for the stock he holds and the price at which it is now quoted on the New York Stock Exchange. That's different. It is interesting; the many blind industrial pools of like nature will even consider it revolutionary, in fact. And there certainly will be a "scattering" of promoters should the court enter the order Mr. Pfarrius asks for. For "there are others" than the directors of the American Malting Company.

Readers will recall the decision in the case of Landa vs. Lattin, in which the Texas Court of Civil Appeals, something over a year ago, held that the assignee of a bill of lading with draft attached, who receives payment of the draft, as a bank, can be held liable for breach of warranty should the property prove defective. The case was much commented on at the time as somewhat revolutionary in character, and there was some fear that the banks might refuse to handle such business owing to the burden of the responsibility cast upon them when making such collections, with which their compensation is hardly commensurate. So far as we are aware, however, no such inconvenience to the grain trade has since resulted, the old custom having continued everywhere without interruption. It is interesting to note that more recently the Supreme Court of North Carolina has substantially indorsed the same doctrine, holding that while as assignee of the draft it had all the rights of an assignee, it also, on becoming such, assumes the assignee's responsibilities. One might assume, then, the tendency of the courts is toward unanimity in the doctrine, wherefore it is a surprise to see that at Norfolk, Va., the Court of Law and Chancery, in the case of A. Brinckley & Co. of Norfolk against the Carlyle Mill and Grain Company and the State Bank of Carlyle, both of Carlyle, Ill., in ruling on a demurrer, held that the bank, in discounting a draft with bill of lading attached, does not render itself liable (apparently, from the information at hand, for

breach of warranty by the maker of the draft). This judgment is, however, subject to appeal.

There are some farmers' elevator companies in Iowa which are in a fair way to go broke some of these fine days. Their managers seem to have the idea that a "company elevator" is by nature outside the pale surrounding the prudent business man operating a private business, and no less than ten of them in various parts of the state are at this moment cornering the grain in their markets by paying prices that no private individual can pay and live. They are the cutthroats of the trade in their towns. Now, even a farmers' elevator must make a margin of profit on its transactions or call on its shareholders to put up the differences, and this, whether it drives out its private competitors or not. The most that a farmers' elevator can hope safely to do, in driving competition with a private grain business, is to force the latter to pay the highest price compatible with some profit; when the farmers' manager goes beyond that he invites a loss for his shareholders. Don't let anyone be surprised, then, if some of the ten companies alluded to, which might be named, get to limping financially pretty soon; they are coming due for that sort of thing.

The effort of the executive officer of the Grain Dealers' National Association to bring about the affiliation of the Illinois Valley Grain Dealers' Association with that body rather than with the Illinois Grain Dealers' Association, to which it naturally belongs and with which it has since affiliated, suggests the danger that the National Association, under its present form of organization, is likely to come into conflict with the state associations in its efforts to increase its membership. This should not be so. The National Association should either confine its work of organizing its branch associations to those states in which there are now no state associations or it should be reorganized as a delegate body and not as an association of individuals. The latter would, indeed, be preferable, as likely to be more beneficial to the trade at large. As a delegate body it would command that respect which all active congresses of affiliated combinations of interests have, and would have also a distinct line of work of its own; whereas, now it has the influence of only a small number of individuals so widely scattered that their numbers are less forceful than a state or district association of even less numbers, while its work is simply a duplication of that done by the state or district associations, to which, also, as a rule, its members belong and thus pay a double price for a single service, which it were better to leave to a single association. The National Association should confine its work exclusively to the settlement of all interstate questions, which are beyond the reach or jurisdiction of the state or district associations. It would thus complete the effective machinery of the trade's associational organization, while if it continues to invade state association territory, withdrawing memberships and interest from the latter, it threatens to do more harm than good. This matter is respectfully referred to the officers and friends of the National Association.

Trade Notes

The Pneumatic Elevator and Weigher Co. of Indianapolis, Ind., has increased its capital stock from \$100,000 to \$150,000.

Schroeder Bros. are erecting a factory building 28x80 feet, two stories high, at Minier, Ill., for the manufacture of a portable grain dump.

Each of the employes of Fairbanks, Morse & Co., Chicago, was presented on Christmas Eve with a \$10 gold piece, by President C. H. Morse.

J. F. Zahm & Co., grain and seeds, Toledo, Ohio, wished their friends in the trade a Merry Christmas and Happy New Year and accompanied it with the gift of a neat celluloid pen holder.

The Webster Manufacturing Company, Chicago, closed a contract recently for the elevating, conveying and power transmitting machinery for the new Great Eastern Elevator at Buffalo, N. Y.

If you are interested in knowing about a fire watchman that never sleeps or takes a holiday, write to the International Sprinkler Co., 517 Arch Street, Philadelphia, for a copy of their neat little booklet telling all about it.

Olds Motor Works, Detroit, Mich., state that their business for 1900 was nearly double that of the preceding year, and that the outlook is such that they have increased their capacity and hope to take care of fully as big an increase next year.

The Union Iron Works, Decatur, Ill., sent out a large wall calendar for 1901, bearing a nice reproduction of the painting, *After a Long Silence*. The Union Iron Works, you will remember, make the Western Shellers and Cleaners and handle a full line of elevator supplies.

The Jeffrey Mfg. Co., Columbus, Ohio, have just issued a Special Illustrated Catalog and Price List of chain belting, elevating and conveying machinery. Their line of manufacture is very complete and includes elevator buckets, bolts, heads, boots, steel conveyors, pulleys, sheaves, etc.

The Robert Aitchison Perforated Metal Co., 303 Dearborn St., Chicago, are busy on orders for perforated metals for use in fanning mills, ice machines, clay screens and cottonseed oil machinery, besides small orders for repair work. They state that 1901 is starting out with every evidence of continued prosperity in their line.

C. D. Holbrook & Co., Minneapolis, Minn., have taken additional room at 305 Third Street South, consisting of adjoining storeroom. It is used for storage of engines, scales and elevator machinery. The firm has been making very large sales recently of the Coffield Gasoline Engine, of which they are exclusive agents in Northwestern territory.

In many localities the grinding of corn with the shuck on, and also the grinding of Kaffir corn in the head, is becoming a subject of much interest to feeders. The Bowsher Mills, made by the N. P. Bowsher Company, South Bend, Ind., are claimed to be specially adapted to this work, as well as being first-class mills on ear corn and all kinds of general feed grinding.

The Sykes Steel Roofing Co., 611 S. Morgan St., Chicago, report that the year just closed is the most successful they have had since they established their business in Chicago ten years ago. They make a specialty of corrugated iron, both painted and galvanized, metal roofing, etc., for grain elevators. They furnish the material alone or contract for the material erected complete. They are at present filling some very large contracts.

The Hess Warming & Ventilating Co., Chicago, have shipped, and are now erecting, a special drier for the Health Food Co. of Battle Creek, Mich., for the drying of wheat which has been boiled ninety minutes, and which is used in one of the cereal foods of that company. The drying of this product has been troublesome for a long time, for the object desired is not to dry it absolutely, but to bring each kernel to a tough, firm condition, but of absolute uniformity. The Hess System was tested by

the sanitarium people before purchasing, and found to be eminently adapted to this work. The Hess Company, in modifying their drier to meet the demand of cereal millers, have made for themselves a wider field which bids fair to bring them as large a measure of success as has been their reward in the elevator trade.

G. T. Honstain, composing the original firm of Honstain Brothers of Minneapolis, Minn., publishes in his advertisement this month a partial list of elevators built by him in 1900. The elevators are of various capacities and are all of the most modern type. Latest reports from the firm are that indications point to a record-breaker on elevator building during the coming year.

From Reynolds Brothers, the grain men of Toledo, Ohio, we have received a handsome four-sheet calendar. Each sheet shows a handsome American lady in a pleasing attitude. The calendar has fancy edges and the prevailing colors are black and gold on a white background, making a rich but modest and pleasing job that will prove an ornament to any home or office.

The Weller Manufacturing Company, Chicago, are just completing a new brick machine shop for heavy work in the rear of their buildings on North Avenue. The company report an unusually large business for the months of November and December. They have now in press a very complete general catalog of their lines of machinery which will comprise over 400 pages, and which will be sent out to patrons very shortly.

Daniel McCaffrey's Sons, Pittsburgh, Pa., favored their friends at Christmas time with a pocket match safe that is as neat and serviceable as anything we have ever seen in the line. It is a metal case with silver plated ends, the body of which is covered with celluloid and bears the firm's advertisement and asking for consignments of hay and straw to which is added the assurance that "You are sure of market price and prompt returns."

The calendar sent out by C. A. Burks & Co., the grain men of Decatur, Ill., and Detroit, Mich., is by far the handsomest we have seen this year. It is a six-sheet affair, each sheet bearing a handsome floral representation from the water color paintings of Paul de Longpré, the famous painter of flowers. Messrs. Burks & Co. know how to do the handsome thing by their customers. Put them to the test with an order and see if this is not so.

The S. Howes Co., Silver Creek, N. Y., recently had the pleasure of supplying, through their London house, a large order for coffee machines from the English government, to be shipped to the colonies. This was a repeated order. The following is the concluding paragraph of a communication just received from the company: "We are also very pleased to say that for the first seven days in the month we have over 70 orders ahead, but with our increased facilities we are able to give our customers prompt shipment."

"Where the New Century Will Really Begin," is the title of a neat booklet published by the Joseph Dixon Crucible Company of Jersey City, N. J. The subject is treated in an able and interesting manner and prefaces an exposition of the numerous kinds of pencils made by this company, than which there are none better. Elevator men, when admiring the uniformity and perfection of their favorite style of Dixon pencil, should not forget that Dixon's Silica-Graphite Paint makes a very durable protective coating for steel smokestacks, metal roofing and siding, boiler fronts, heated surfaces, etc.

The Otto Gas Engine Works, Philadelphia, Pa., have acquired the entire block upon which the present shops stand and contracts have been let for two brick buildings which will increase the floor space some 12,000 feet. When all is completed it is believed that the capacity of the works will be fully doubled. The estimated cost of these additions is \$100,000, and they are made necessary by the fact that at no time during the last two years has the company been able to take care of the business that has been offered. Moreover, the new lines of stationary and marine engines of large power recently added call for heavier and a greater variety of tools

than the business has hitherto required. With almost enough business in sight to keep the enlarged factory running for the next twelve months, the wisdom of the company's course seems assured.

We have received a copy of the new catalog just issued by the New Era Iron Works Co., Dayton, Ohio. It contains 36 pages filled with many illustrations and much matter that should be of great interest to prospective purchasers of gasoline engines. The title page has an illustration of the company's new plant where the New Era Gas and Gasoline Engines of 5 to 125 horsepower are made. Although their capacity has been doubled within the past few months, they still claim it is difficult to keep pace with their orders. If you are interested in gasoline engine power, write them for a catalog, mentioning the "American Elevator and Grain Trade."

The Hess Warming & Ventilating Co. of Chicago have brought out a line of portable grain driers for country elevators, especially for those operated by gasoline engines, and where steam is not available. The use of steam coils is omitted, and the heat is furnished by means of a steel furnace. The drying may be done with hard or soft coal, wood, or any elevator waste, such as cobs or oat hulls. The machine may be set up and operated by any handy man, and is sold at a price considerably below that of the steam drier, besides costing less for freight and for expense of erecting. With such an equipment, the small elevator operator can make grain drying a valuable adjunct to his business.

IN THE COURTS

J. K. Comstock of Galesburg, Ill., has sued the McDonough Grain Company of Bay City, Mich., for \$750, claimed as damages for non-fulfilment of a contract to deliver 400 bushels of beans by November 1, 1900.

The La Salle National Bank of La Salle, Ill., has begun suit against the Illinois Central Railroad Company, alleging damages of \$4,000. The bank claims that it had \$4,000 worth of oats in N. Eisenhauer's elevator at Dimmick, Ill., which was burned May 21, 1900. The fire supposedly was caused by a spark from the defendant's locomotive.

Judgment in favor of Robbins & Warner of Minneapolis against E. M. Wallbridge was entered December 23, giving the former possession of 1,600 bushels of barley, 12,500 bushels of oats, 4,800 bushels of wheat, 1,050 bushels of rye and 679 bushels of flaxseed. The plaintiffs had advanced money on warehouse receipts for the grain enumerated, stored at various points in Minnesota.

The S. Y. Hyde Elevator Company and the W. W. Cargill Company of La Crosse, Wis., have finally recovered damages caused by the burning of a trainload of barley on the Chicago, Peoria & St. Louis R. R. in 1894. The train took fire in a shed from a passing locomotive, and the plaintiffs claimed that the road knew that the shed was not fireproof, and was unsafe with locomotives passing so often.

Judge Kohlsaat, in the United States Circuit Court at Chicago, took from the jury the case of the Leonard Seed Company against the American Central, to recover \$3,000 under a policy, and gave a decision for the company. The fire was in the New England Mills, Chicago, November, 1899, when an explosion caused the fall of the building. It was claimed that the fire caused the fall, but the companies denied liability and contested the claim.

Rosalve Grieswold and William H. Ryan have begun action against Walker & Adams of Lincoln, Neb., whose elevator at Waverly was recently burned. Both complainants had unloaded corn at the elevator, which burned before they were paid. The elevator men claimed that as the deal was not concluded the complainants were entitled only to salvage on the corn. The complainants accepted payment on that basis. They now claim to have learned that their corn was shipped from the elevator before the fire, and therefore claim they are entitled to the full value of their corn at the

agreed price of 30 cents per bushel, making a total of \$987 for both claims.

George Ehrhart of Decatur, Ill., has begun suit against Moore Bros., grain dealers at Niantic. The allegation is that one John Dingman borrowed money from Ehrhart on corn, which Dingman then sold to Moore Bros. Ehrhart seeks to recover the loan, claiming \$1,000 damages.

In the case of Arnold Judd of New London, Conn., against the Daniels Mill Company of New Haven, Conn., the justice gave the plaintiff judgment on December 20 for \$75. Judd bought a carload of oats from the Daniels company, which they shipped direct from Chicago. On weighing at New London the car was found to be, as claimed, 250 bushels short. The Daniels company insisted on settlement on the basis of Chicago official weight, and will appeal from the justice's decision to the contrary.

EXPORTS FROM ATLANTIC PORTS

The exports of breadstuffs, as compiled by George F. Stone, secretary of the Chicago Board of Trade, from the Atlantic ports during the two weeks ending January 5, as compared with same weeks last year, have been as follows:

Articles.	For week ending		For week ending	
	Jan. 5.		Dec. 29.	
	1900.	1900.	1900.	1899.
Wheat, bushels	1,353,000	2,035,000	1,846,000	1,696,000
Corn, bushels	5,188,000	5,369,000	3,879,000	3,123,000
Oats, bushels	281,000	924,000	369,000	226,000
Rye, bushels	69,000	55,000	17,000	57,000
Barley, bushels	44,000	431,000	492,000	
Flour, barrels	319,500	247,300	276,000	293,600

FLAXSEED AT CHICAGO.

The receipts and shipments of flaxseed at Chicago during the 17 months ending with December as reported by S. H. Stevens, flaxseed inspector of the Board of Trade, were as follows:

Months.	Receipts.		Shipments.	
	1900-01.	'99-1900.	1900-01.	'99-1900.
	1900.	1900.	1900.	1900.
August	1,125,750	621,375	749,135	670,392
September	764,250	1,231,875	522,880	775,135
October	931,500	1,163,814	536,684	348,149
November	746,384	1,068,698	490,505	555,308
December	474,000	812,875	108,068	494,339
January	174,000		233,423	
February	259,500		110,605	
March	339,750		221,285	
April	198,750		90,953	
May	206,250		204,890	
June	16,500		16,068	
July	20,000		53,361	
Total bushels	4,041,884	6,297,382	2,407,252	3,773,908

RANGE OF PRICES AT CHICAGO

The daily range of prices for cash grain at Chicago for the month ending Jan. 12 has been as follows:

December.	NO. 2* R.W.WHT	NO. 1 NO. 2 SP.WHT.	NO. 2 CORN.	NO. 2 OATS.	NO. 2 RYE.	NO. 1 N.W. FLAXSEED	Low.				High.			
							Low.	High.	Low.	High.	Low.	High.	Low.	High.
12	72	75	69 3/4	70 3/4	37 1/2	37 1/2	22 1/2	23	165	165				
13	72 1/2	74 1/2	70 1/2	70 1/2	38 1/2	37	23	48	48	48	162	176		
14	72 1/2	74 1/2	69 3/4	70 3/4	37	22 1/2	23	49 1/2	49 1/2	49 1/2	162	176		
15	72 1/2	74 1/2	69 3/4	70 3/4	37	37	22 1/2	23 1/2	165	165	166 1/2			
16	72	74	69 3/4	70 3/4	39	39	22 1/2	23 1/2			163 1/2	163 1/2		
17	72	75	69 3/4	70 3/4	40	40	22 1/2	23 1/2	50	50				
18	71	74	69 3/4	70 3/4	40 1/2	40 1/2	22 1/2	23 1/2	47	47				
19	71	74	69 3/4	70 3/4	70	70	40	40	23	23	52	52		
20	71 1/2	74 1/2	69 3/4	70 3/4	70	70	40	40	23	23	51	51	160	160
21	71 1/2	74 1/2	69 3/4	70 3/4	70 1/2	70 1/2	22 1/2	23 1/2	50 1/2	50 1/2	160	160		
22	72	74 1/2	69 3/4	70 3/4	37 1/2	37 1/2	22 1/2	23 1/2	50 1/2	50 1/2	158	158		
23									155	155				
24														
25														
26	72 1/2	74 1/2	69 3/4	70 3/4	36 1/2	36 1/2	22 1/2	23 1/2	50 1/2	51	161	161		
27	72	74	69 3/4	70 3/4	36 1/2	36 1/2	22 1/2	23 1/2	50 1/2	51	158 1/2	158 1/2		
28	72	74 1/2	69 3/4	70 3/4	35 1/2	35 1/2	22 1/2	23 1/2	47	47				
29	73	75 1/2	70 3/4	72 1/2	37	37	23	23	52	52	153 1/2	154		
30														
31														
January														
1	71	78	73 1/2	74 1/2	36 1/2	36 1/2	23 1/2	23 1/2	53	53	157	157		
2	75	78	73 1/2	74 1/2	36 1/2	36 1/2	23 1/2	23 1/2	53	53	157	157		
3	75	77 1/2	73 1/2	74 1/2	36 1/2	36 1/2	23 1/2	23 1/2	53	53				
4	75	78	73 1/2	74 1/2	36 1/2	36 1/2	23 1/2	24	47 1/2	47 1/2	157	157		
5	77	79	73 1/2	74 1/2	37 1/2	37 1/2	24	24						
6														
7	76	78 1/2	73 1/2	78	37 1/2	37 1/2	24 1/2	24 1/2	54 1/2	54 1/2	156	156		
8	78	78	73 1/2	78	37 1/2	37 1/2	24 1/2	24 1/2	53	53	159	159		
9	76	78	73 1/2	75 1/2	37 1/2	37 1/2	24 1/2	24 1/2	53	53	161	161		
10	76 1/2	76 1/2	73 1/2	75 1/2	37 1/2	37 1/2	24	24	54	54	163	163		
11	76	77 1/2	74 1/2	74 1/2	37 1/2	37 1/2	24	24	53	53				
12														

* Nominal price. † Holiday.

During the week ending December 14, Prime Contract Timothy Seed sold at \$4.50 per cental; Prime Contract Clover Seed at \$10.00@10.50; Hungarian at \$0.70@0.95; German Millet at \$1.00@1.35; buckwheat at \$1.10@1.30 per 100 pounds.

During the week ending December 21, Prime Con-

tract Timothy Seed sold at \$4.45@4.55 per cental; Prime Contract Clover Seed at \$10.00@10.25; Hungarian at \$0.70@1.10; German Millet at \$1.00@1.45; buckwheat at \$1.15@1.35 per 100 pounds.

RECEIPTS AND SHIPMENTS.

Following are the receipts and shipments of grain, etc., at leading receiving and shipping points in the United States for the month of December, 1900:

BALTIMORE—Reported by Wm. F. Wheatley, secretary of the Chamber of Commerce:

ELEVATOR & GRAIN NEWS

AMONG CHICAGO'S ELEVATORS.

The dock at the Wabash Elevator, Thirty-third Street and the South Branch, is said to be sadly in need of being rebuilt.

We understand that P. E. Canfield, late superintendent of the Wabash Elevator, is about to make new connections in the same line of business.

The Chicago Railway Terminal Elevator Co. are still operating their fleet of boats, transferring grain between their four elevators located on the Chicago River.

H. Mneller & Co.'s elevator at Stewart Avenue and Fifty-sixth Street has recently received some improvements including new pulleys for the elevator heads.

Requa Bros.' Elevator at Forty-fourth Street and the Wabash Railway tracks, is again in operation with prospects for an extended run of work ahead.

It is rumored that the Reynolds Grain Co. of Toledo, Ohio, will soon take charge of the Wabash Elevator at Chicago, which has a capacity of 1,500,000 bushels.

The St. Paul and Fulton Elevators are again closed down for an indefinite period. This season of inactivity is being taken advantage of and much needed repairs are the order of the day.

The latest addition to the equipment of Rosenbaum Bros.' Belt Line Elevator is a Monitor Inspirator. This has been placed in the boiler room to be held in reserve for use in case of necessity.

The New England Elevator, operated by La Sier & Hooper, has been rechristened. The building now bears very conspicuously the new name, Grand Trunk Elevator No. 3. The plant still remains idle.

The benefit tendered to Christ Eck, the elevator foreman who lost his leg last summer, realized for him the neat sum of \$500. The raffle took place December 15. A party in Hammond, Ind., drew the gentleman's gold watch.

The National Elevator & Dock Company's elevator at Wallace and Archer avenues has done but little work during the past month. Repairs and a general clean-up are therefore the order of the day. O. C. Nelson is the superintendent of this house.

The Williams Grain Co., operating the Fitchburg Elevator at Thirty-ninth Street and Stewart Avenue, have come to an amicable agreement with the new owners of the property, the E. J. Lehmann Estate, whereby they will continue to operate the plant.

Armour Elevator C is at present on the list of idle houses. The employees are being kept busy making necessary repairs on the machinery and relining the scale hoppers and shipping bins with metal. The house is receiving a thorough overhauling.

Central Elevator A, operated by Carrington, Hannah & Co., is not as busy as formerly. An extensive business is done at this house during navigation season. At present repairs are being made. The marine leg was recently overhauled and new machinery placed.

Christmas Day was quite generally observed by the employees of Chicago and Cook County elevators and the majority of the houses were closed. This was also the case on New Year's Day, when employers and employees alike united in welcoming the twentieth century.

The Nebraska City Packing Company's Elevators A, B, C and D are keeping in line with the majority of Chicago's grain houses at present so far as work is concerned. But little business has been transacted at this plant for the past two months. The total storage capacity is 2,240,000 bushels.

The Mercer Elevator at Twelfth and Rockwell streets, formerly known as the Owen & Austin Elevator, but now owned and operated by W. R. Owen, has been kept constantly at work during the past season, but is now only operated at intervals. Several minor improvements have been made of late. The capacity of this house is 125,000 bushels.

The Indiana Elevator, operated by the American Cereal Co., is still undergoing extensive repairs and improvements. Ten new twin scales have been installed. The railroad tracks in the house have been lowered 8 inches to admit the larger sized cars now being used. The boiler and engine house has received a new gravel roof. The millwright's workshop, which has been located some hundred feet from the main plant, will be placed on the first

floor of the elevator, making it much more convenient than formerly.

The Morgan Elevator at Walleck Place and the "Q." tracks, which was owned and operated for a long period by Richardson & Co., is now idle. In fact, it is practically dismantled and abandoned, and the building will probably be removed in the near future. Its capacity was 20,000 bushels.

Armour Elevator E closed down on December 26 for an indefinite period. In the meantime the boiler furnaces are being relined and all scale hoppers and shipping bins are receiving new metal linings. All hose valves on standpipes have had petcocks placed in them for their protection during cold weather.

The Wabash Transfer Elevator, operated by R. E. Pratt & Co., is one of the few houses that have plenty of work to do, but it is prevented from accomplishing much owing to the scarcity of cars. A few days ago there were over 250 cars of grain in the yards waiting to be unloaded, but notwithstanding this the elevator has to remain idle the greater part of the time.

The Lake Shore Transfer Elevator, operated by Churchill & Co., has had new guy cables and rods placed on its metal smokestack. The dust and chaff from the cleaning machines at this house are no longer used for fuel but are utilized for feed, being shipped by the carload to some point in the state.

The Byrnes Grain Co.'s elevator at 3149-51 La Salle Street, has been entirely recovered with a new steel roof and equipped with new fire fighting apparatus. Other improvements are contemplated, including the locating of the power plant in an outside building. C. H. Atwood is foreman of this house.

The Alton Elevators A and B have had their exteriors painted a dark red, 450 gallons of oil and mineral paint being used. Chris Schmidt, the superintendent of these houses, is a sufferer from inflammatory rheumatism. He has gone to Iowa to recuperate, leaving the plants in charge of his brother.

Chicago elevators after a very busy and prosperous season are experiencing a rather dormant period. But few houses are working anywhere near their full capacity. The majority have dispensed with the services of more than one-half their employees, while several plants are closing down for an indefinite period.

A change in superintendents has been made at the Pennsylvania Elevator. Fifty-seventh and Leavitt streets, Chris. Steiner being succeeded by I. W. Weeks, formerly foreman of Peavey's Elevator B at South Chicago. The Pennsylvania Elevator has a capacity of 180,000 bushels and is operated by Requa Bros.

Gerstenberg & Co.'s 60,000-bushel elevator, known as the Chicago Grain Co. Elevator, located on the C. M. & St. P. Ry. at Cragin, Ill., has been idle for nearly two years. During this time a watchman has been constantly in charge. The machinery is in good working order and the plant in first-class condition throughout.

Armour Elevator F is among the houses affected by the dull season. It has ceased working for an indefinite period. Some important repairs and improvements have been made. All hose valves have been equipped with petcocks in order to prevent the accumulation of moisture caused by condensation and the freezing up of the valves.

The Michigan Central Railroad's Transfer Elevators A and B at Kensington recently received a coat of red paint, which was evidently intended as an undershirt, as on top of it they are now receiving a coat of a deep black color. Elevator A, which has no storage capacity, is doing but little, while Elevator B is now running full blast.

The Chicago & Erie Transfer Elevator, operated by the Interstate Elevator Co., has taken advantage of the recent lull in shipments to attend to much needed improvements. Three new dust ventilators were placed on the dust collector room and all metal shipping spouts were replaced with new ones. Several other changes are projected.

The latest improvement at McReynolds Elevator A at South Chicago is the new steam heating apparatus that has been placed in the offices of the plant. During the past season this house made some of the largest shipments that were made by water from Chicago. Following the close of navigation it is one of the busiest houses engaged in shipping East by rail.

The Merritt Elevator A is one of the busiest plants at South Chicago. Since starting up it has had a continuous run of work days, nights and Sundays. This house is equipped with all modern improvements, including an automatic journal fire alarm system on all bearings, a passenger elevator, telephone watch service for watchman and its own electric lighting system. The fire fighting apparatus consists of a Barr Underwriter Fire Pump having a capacity of 750 gallons per minute, three standpipes and hose attached on each floor. Also

a good supply of fire axes and Miller Fire Extinguishers well distributed. Additional improvements are under consideration. This house is owned and operated by W. H. Merritt & Co. and J. A. Reagan is superintendent.

The Union and Annex Elevator took advantage of the dull season to reset its boilers and make other necessary repairs. This house is one of the oldest in Chicago. It formerly contained circular bins, but these were replaced with square cribbed bins. At present the plant may be said to be almost a model one. Its capacity is 1,800,000 bushels.

The Northwestern Malting Co., whose plant is situated at North Forty-sixth Avenue and Cortland Street, Cragin, Chicago, are about to install the automatic pipe system of oiling the bearings. The pneumatic system of malting is employed at this plant, which has a capacity of 3,000 bushels daily. The elevator has a storage capacity of 700,000 bushels. S. M. Demond is superintendent and C. Goodman, foreman.

The Oxford Elevator at South Chicago presents an exterior that somewhat resembles a man who got only one side of his face shaved. The entire east side of the building has been painted a funeral black embellished with large yellow letters forming this injunction, "Read the Daily News." The west side bears a very old and faded beer sign. Here is an opportunity for some enterprising advertiser to get in his work.

The Columbia Elevator, owned and operated by the Armour Elevator Company, after a short season of hard work is closed down again. The house is now deserted except by the engineer, who keeps up sufficient steam to run the fire pump in case of necessity. The underwriters require steam to be maintained night and day at a pressure of not less than 50 pounds. The bins at present contain a small amount of grain.

The 100,000-bushel Hayford Elevator, owned by G. T. Sidwell, has been idle for a considerable time. A watchman is employed to constantly look after the plant. The Grand Trunk depot, located several hundred feet from this house, was recently destroyed by fire. It ignited the prairie grass which surrounds the elevator and only the persistent efforts of the watchman and railroad employees kept it from communicating to the buildings.

The Leet & Fritze Elevator on the C. & E. I. at Ninetieth Street and Stewart Avenue, Oakdale, which has remained idle since it was vacated by the American Cereal Co. over a year ago, bids fair to have a new tenant, so it is reported. As the house was practically dismantled of all machinery except the engine and boiler, new machinery will doubtless be in order. The American Trust & Savings Bank is trustee of the property and has had a watchman at the house constantly since it was vacated.

The Chicago & Grand Trunk Transfer Elevator now bears a new sign announcing that it is Grand Trunk Elevator No. 1. This house has done but little work during the past three months and is idle at the present time. The Chicago & Grand Trunk Elevator, located near the above transfer elevator, is also the recipient of a new name, it now being conspicuously labeled as Grand Trunk Elevator No. 2. This house has had all the work it could do during the past thirty days. Rogers, Bacon & Co. are lessees of both these houses.

There has been some delay in the completion of the Calumet Grain & Elevator Co.'s new Elevator D, owing to several accidents which have occurred to the main line of shafting. This shaft runs from the detached power house through Elevators A and B. Several of the smaller shafts have also broken down, causing the complete shutting down of the plant on several occasions. All ledges and joists in these houses have been beveled on top to prevent the lodgment of dust. In addition to the safety which this plan affords it saves the labor of sweeping down overhead beams and joists. A new fire pump, with a capacity of 1,000 gallons per minute, is being installed. Its size is 18x10x12, with a 12-inch suction and 8-inch discharge. The new Triumph Dynamo has a capacity of 90 lights. The combined capacity of these houses is 540,000 bushels.

Rogers, Bacon & Co.'s Middle Division Transfer Elevator at Harvey, Ill., has been remodeled and practically rebuilt. An additional story was placed on the engola so that the total height of building is now 109 feet 6 inches. The additions include three stands of elevators and iron tanks, two garners, two Eureka Cleaning Machines, one of 1,500 and the other 500 bushels' capacity; one Invincible Machine, with a capacity of 2,000 bushels. All stairways are trapped and inclosed. All windows are covered with standard screens. Three dust collectors have been placed in position and new belting, shafting, etc., put in. The plant is equipped with a rotary hot air power blower connected direct with bins. An Erie Engine furnishes power for same. The boiler and engine house has been enlarged and an additional boiler placed, also two metal stacks and an E. P. Allis Company Engine of 200 horse-

power. New side tracks were put in, so that the receiving and loading capacity is doubled. Water is furnished from a driven well and the city supply also. All fire-fighting apparatus has been overhauled and put in serviceable condition. This plant is now running full blast.

Rock Island Elevators A and B, operated by Charles Counselman & Co., have taken advantage of the dull period following the autumn rush to make several important improvements. Two new iron fire ladders have been placed on each elevator, running from grade to the roofs of cupolas. This not only complies with insurance requirements but may be a protection to the lives of employees in case of fire. Spouts, scale and shipping bin hoppers have been relined with metal, the windows protected by $\frac{1}{2}$ -inch mesh wire screens and other minor improvements made.

The Santa Fe Elevator, operated by Richardson & Co., has been one of the busiest houses in the country. Since April last over 15,000,000 bushels of grain has been handled, the house being run continuously at the rate of 100 cars a day. In one month 31 boats were loaded and in another month 39 boats. This busy period continued until December, since which time the elevator has been working at its usual easy capacity. Recent improvements include the replacing of the boiler flues with new ones of charcoal iron, a 200-light dynamo and the replacing of all power shovels with new ones. The roof and exterior of building have been repainted and all hoppers of scales and shipping bins relined with metal. The machinery in general is being overhauled. This plant is equipped with a Hess Pneumatic Grain Drier. The house has 201 bins and a capacity of 1,500,000 bushels. Bert Parker is superintendent.

ILLINOIS.

A gasoline engine has been installed in Healy's Elevator at Waddams Grove, Ill.

Boyle & Blakely have a new elevator about ready for business at Kilbourne, Ill.

Warren Gregory has purchased Burkitt & McIntyre's grain elevator at Pittwood, Ill.

J. R. Carlisle has purchased C. E. Dooley's interest in the grain business at Downs, Ill.

W. J. Farris has purchased the lumber yard and elevator of A. Coppock at Le Roy, Ill.

Holmes & Ashbaugh are now handling grain through their new elevator at Dunlap, Ill.

Huntington James of Herscher, Ill., expects to add grain buying to his banking business.

Philip Steiner of Randolph, Ill., contemplates making some improvements on his elevator.

David H. Spronl, dealer in grain and hay at Vera, Ill., has sold out his grocery business.

L. R. Smith & Co. will build an elevator at Sullivan, Ill., on the site of the one that burned.

Ortman & Rosenberger have gone out of the grain business at Martinton and Papineau, Ill.

The Dakota Elevator Company, Dakota, Ill., have put a new gasoline engine in their elevator.

Clinton Kessler of Rossville has purchased a half interest in H. G. Porter's elevator at De Land, Ill.

Gilmore & Franks will build an addition to their elevator at Gridley, Ill., as soon as the weather permits.

J. G. Holdridge of Gridley, Ill., will build a 90,000-bushel oats house in connection with his new elevator.

Burgett & McIntire have sold their grain and coal interests at Pittwood, Ill., to Gregory & Hawk.

Louis Larison has sold to George Bane his one-third interest in the elevator business at Ellsworth, Ill.

Bartley Gulshen of Herscher, Ill., has purchased an elevator at Odell and will take charge of it February 1.

John Mosher is now running the grain business at Roberts, Ill., which he recently purchased of Geo. L. Merritt.

Rogers, Bacon & Co., Chicago, are remodeling their grain elevator at Graymont, Ill. G. T. Burrell & Co. have the contract.

The firm of Newell & White, doing a grain, lumber and general store business at Garden Prairie, Ill., has been dissolved.

The Mattoon Elevator Company last month let the contract for a large new elevator at Mattoon, Ill., to be completed about February 1.

The Middle Division Elevator at Champaign, Ill., was recently completely overhauled. A 100-horsepower electric motor was taken out and a 110-horsepower Atlas Steam Engine installed in a

new brick power house. Day's Dust Collector System was put in and connected with the furnace.

The Farmers' Elevator Company have the work well along on their new elevator at Wapella, Ill.

The Alexis Grain Company, Alexis, Ill., has sold out its business to the Neola Elevator Company of Chicago. Harry Lafferty will run it for them.

The Oneida Elevator Company held their annual meeting at Oneida, Ill., last month. The treasurer's report showed an increase in cash on hand of about \$480.

The Botsford-Jenks Elevator Co., East St. Louis, Ill., has been incorporated with a capital stock of \$100,000 by John E. Botsford, Frank D. Jenks and John W. Taylor.

Coon Bros. of Rantoul have sold their elevator at Saybrook, Ill., to the J. W. Null & Shearer Company, of Cullom, for \$8,500, possession to be given February 1.

The Elkhart Grain & Lumber Company of Chicago has been incorporated, with a capital stock of \$20,000, by Geo. A. Bock, Israel P. Rumsey and Henry A. Rumsey.

Corn shelling among the farmers around Matamet, Ill., was stopped for a time last month because the grain men had their houses filled and could get no ears for shipping.

E. L. Beall, resident manager of Beall Bros. & Co.'s grain and lumber business at Lovington, Ill., has purchased his partners' interests and is now sole proprietor of the business there.

A newspaper correspondent in describing W. J. Roller's new elevator at Newman, Ill., says: "It will be a dandy when fully completed, as it will be mountain high, cyclone strong, and fireproof from start to finish."

G. T. Burrell & Co. have started work on a new 20,000-bushel grain elevator for the Baxter Grain Company of Taylorville, Ill. It is located at Willey and takes the place of the elevator burned November 21. A 20-horsepower gasoline engine will furnish the power.

EASTERN.

Chas. Getchell has opened a grain store at Newport, Me.

Azel Bryant has opened a grain store at Locke's Mills, Me.

S. A. Fishburn will build a grain and feed warehouse at Penbrook, Pa.

The Wolf Mfg. Co. are building a grain elevator near their mill at Fleming Junction, N. J.

Daniel McCarthy has added grain and hay to his coal business at Turner's Falls, Mass.

The C. E. Spooner Co. are doubling the size of their grain warehouse on Commercial Wharf at Newport, R. I.

Samuel Radis of Fall River, Mass., grain dealer, has filed a petition in bankruptcy. Liabilities, \$5,651; assets, \$722.

The Penn Grain & Seed Co., Camden, N. J., has been incorporated with a capital stock of \$50,000, \$1,000 paid in.

The city council of Wilmington, Del., has passed an ordinance establishing a grain and fruit market in West Fourth Street.

R. A. Mather of Rushville, N. Y., has added to his grain business the seed and produce business of T. C. Parkhurst at Canandaigua.

Hector L. Mousett and Wm. H. Roades have formed a partnership and will conduct a grain and hay store at South Hadley Falls, Mass.

A two-story grain storage building, 33x101 feet, has been built at 1335 North Thirty-first Street, Buffalo, N. Y., for J. M. Walters of Pottstown.

H. C. Hall has retired from the grain and hay firm of Ham & Co. at Woburn, Mass. Jacob A. Ham continues the business without change of the firm name.

H. H. Capen of Spencer, Mass., will install in his new grain store a bucket elevator and a grinding mill, which will probably be operated by a gas engine.

James A. Connor of Malden, Mass., has added to his grain business the warehouse and hay sheds of J. S. Perkins & Co., purchased from the assignee of the latter.

It is reported that Michael B. Nichols of Easton, Md., is interested in an enterprise near that town which includes the building of a grain elevator, docks and other shipping facilities.

The Chas. M. Cox Co. has been organized at Portland, Me., for the purpose of carrying on a general grain business, with \$60,000 capital stock, of which \$75 is paid in. The officers are: Presi-

dent, Chas. M. Cox of Melrose, Mass.; treasurer, C. C. Blaney of Newton, Mass.

The New York Central & Hudson River Railroad has decided to construct at Weehawken, N. J., which is the West Shore terminus, a large grain elevator and other improvements at an estimated cost of \$1,750,000.

W. N. Potter, Sons & Co. of Greenfield, Mass., have purchased from the assignee the grain warehouse and business of M. L. & M. W. Graves at Northampton, Mass. The Messrs. Graves will be in their employ for the present.

Irving Powers & Co. continue the grain and milling business of the late firm of Powers, Easterbrook & Co. at Charlestown, Boston, Mass. The change in the firm name is due to the withdrawal of Frank W. Easterbrook.

J. W. Butterfield is now doing a grain, mill feed and lumber business at North Montpelier, Vt., as successor to M. V. B. Hollister. The plant was idle during the past year and for some four months has been undergoing repairs.

The New York Central R. R. Co., lessees of the Boston & Albany, will issue bonds for nearly \$3,000,000 to cover terminal improvements in and near East Boston. These include a 1,000,000-bushel elevator to be constructed of steel.

The following are the newly elected directors of the Electric Grain Elevator Company of Buffalo: O. M. Mitchel, Yale Kneeland, R. Muller, F. E. Kneeland and Edward W. Evans. Mr. Evans lives in Buffalo. The others, except Mr. Mitchel, live in New York.

A receiver has been appointed for the business of Isaac Robinson at Baltimore, Md. Mr. Robinson was a large packer of fruits and vegetables and a dealer in grain and fertilizers. It is said that his business operations were too large to be properly handled with the capital at his command.

CENTRAL.

An elevator is to be built at Riverdale, Mich.

An elevator has recently been built at Hoagland, Ind.

John Weimiskirk has purchased the elevator at Arcadia, O.

E. H. Barker is building an elevator at Vicksburg, Mich.

The elevator at Tamah, Ohio, has been a sufferer from the ear famine.

An elevator will probably be built at Lawrence, Mich., by Fuller Bros.

It is reported that I. L. Sloan will erect an elevator at Grelton, O.

The new Huston & Hill elevator at Alliance, Ohio, will soon be completed.

W. J. Thomas & Co. have purchased the Sebring Elevator at Schoolcraft, Mich.

Kerr Bros. of Grand Rapids, Ohio, opened their new elevator at McClure last month.

Harbour Bros. have succeeded to the grain business of E. E. Harbour at Pemberton, Ohio.

Molland & Wright have purchased Joseph Sherek's grain business at Bellevue, Ohio.

Fred Schlientz has purchased and taken charge of the Schreel Elevator at Eldorado, Ohio.

S. D. Hinsey has purchased the elevator and hay shed at Croswell, Mich., from J. Dafoe.

The Owen P. Davis Grain Company have opened their new grain elevator at College Corner, Ohio.

Elmer Augell has opened a hay, grain and feed store at Athens, Ohio, and is also operating a feed mill.

A. B. Conkright has purchased and taken possession of Horn & Co.'s grain warehouse at Richwood, Ohio.

J. S. Calkins is now doing business in his new elevator at Jewell, Ohio, the only one at that place.

Fred Schlientz took possession on January 1 of the elevator at New Paris, Ohio, which he recently purchased.

The C., H. & D. Elevator at Toledo, Ohio, will be rebuilt. It will be a fireproof house and modern throughout.

Raabe Bros. of Ft. Jennings, Ohio, have purchased the elevator at Cloverdale and are enlarging and remodeling same.

Wesley Hardman, who lost his elevator by fire last June, is now doing business in a nice new elevator at Cable, Ohio.

Beshour & Love of Burnettsville, Ind., whose elevator has been closed for lack of cars, were fortunate enough to secure, in some manner, a

bunch of seven a few days ago, and they lost no time in getting them loaded.

The elevator at North Lewisburg, Ohio, has been purchased by Chamberlain Bros. of East Liberty.

Fred P. Rush of Indianapolis, Ind., has sold his grain business to Frank W. Murphy and will retire on account of ill health.

A company has been organized at Vernon Junction, Ohio, for shipping grain and live stock. A small elevator will be built.

C. W. McCallum of Bridgeport, Mich., has installed in his elevator a 12-horsepower Detroit Motor Works Gasoline Engine.

The elevator building on the M. C. tracks at Wayne, Mich., has been purchased by a local carriage factory for use as a warehouse.

J. T. Woodcock, grain dealer at Springfield, Ohio, has purchased and is operating the grain elevator and warehouse at Kingscreek, Ohio.

Crabb, Reynolds & Wheeler have purchased the Ross Elevator at Reynolds, Ind. C. C. Wheeler, who has been running the elevator, will continue in charge.

The Royce & Coon Grain Company, Bowling Green, Ohio, has been incorporated, with a capital stock of \$75,000, by A. E. Royce, J. J. Coon, F. E. Whitaker, J. B. Ballou and R. S. Sweet.

It is reported that George Harris and J. M. Jarrett, elevator men at Fountain City, Ind., are promoting a plan to build an elevator at Richmond, and perhaps also at Boston and Williamsburg, on the C. R. & M. Ry.

The Woodburn Elevator & Milling Company, Woodburn, Ind., has been incorporated with a capital stock of \$15,600. The directors are: B. P. Harris, Jacob P. Habger, David Scheidegger, Meno Yaggy, Daniel Stuck, Philip Sprunger and E. R. Moser.

WESTERN.

J. M. Neil has engaged in the grain and hay business at Boise, Idaho.

Kerr, Gifford & Co. of Portland are now owners of the grain warehouse at Arlington, Ore.

Caldwell & Phillips recently succeeded Johnson & Phillips in the ownership of the warehouse at Spicer, Ore.

The new flouring mill at Everett, Wash., has a 65,000-bushel elevator in connection. Neither of these buildings is yet completed.

The new grain warehouses erected at Tacoma, Wash., last summer, are being enlarged by an addition 510 feet long. It is stated that still further enlargements will be made next spring.

The Rauchmen's Milling & Elevator Co., Hooper, Colo., has been doing a nice business of late, taking in about 4,000 bushels of wheat a day, part of which is shipped and the balance stored.

D. M. Glasgow, who has been in the grain business at Davenport, Wash., for the past 12 years, has sold a controlling interest in his warehouse to the Big Bend Milling Co. He expects to move to Spokane.

The Kettenbach Company, Ltd., Lewiston, Idaho, has been incorporated with a capital stock of \$50,000 to deal in grain and conduct an insurance and brokerage business. The directors are Frank W. and William F. Kettenbach, George H. Kester, Ed. C. Smith and James E. Babb.

SOUTHERN.

Law & White have opened a grain store at Carbon, Tex.

Woods & McGahey have opened a grain store at Lewisburg, Tenn.

Bowdre Brown, Chattanooga, Tenn., has retired from the grain business.

Edmund Mitchell has opened a wholesale grain house at Scranton, Miss.

The Bonham Mill & Elevator Co., Bonham, Texas, will increase its elevator capacity.

Hail & Oliver are the successors of Geo. W. Hail in the grain business at Hico, Tex.

The large elevator at Pensacola, Fla., began handling wheat for export on December 16. Over 70 cars of grain was then on track.

It is reported that a large grain elevator is to be built at Montgomery, Ala., by St. Louis parties, among whom T. J. Sullivan is mentioned.

Buildings are being erected at Crowley, La., in which a large grain and feed business will shortly be established by Brooks Bros. & Wolverton.

For two or three months past the newspaper men of New Orleans have given their imaginations free play and indulged in all sorts of statements and speculations as to the uses to which

the old Ninth Street Elevator in that city would be put. It now turns out that it is merely being used as a coal warehouse by its new owners.

The Enterprise Fuel & Grain Co. of Little Rock, Ark., has been incorporated with a capital of \$10,000 by W. M. Kavanaugh, M. E. Wormser, E. B. Blanks Jr.

The Texas Grain Dealers' Elevator Co. is being organized with a capital stock of \$20,000 to erect a cleaning, drying and storage elevator at Galveston, Tex.

The Blackwell Milling & Elevator Co. are said to contemplate the erection of a good-sized elevator at Lamont, Okla., a new town between Enid and Blackwell.

WISCONSIN AND MINNESOTA.

The new elevator at Gibbon, Minn., is about ready for business.

E. M. Engleman has built a grain warehouse at Hallock, Minn.

An elevator is being built at the new town of Ellendale, Minn.

H. Boettcher & Sons of Two Rivers, Wis., will erect a grain elevator in the spring.

The new Reiger Elevator at Plato, Minn., is being rapidly put in shape to receive grain.

The Northern Elevator Co. of Winnipeg are buying grain this winter at Sprague, Minn.

The Farmers' Elevator Co., Ada, Minn., has been incorporated with a capital stock of \$10,000.

The Exchange Grain Co., Hutchinson, Minn., are about to build an elevator to replace the one recently burned.

The Minnesota & Dakota Elevator Co. are building a feed store in connection with their elevator at Darwin, Minn.

The elevator operatives of Minneapolis have organized a union. At their first meeting 28 charter members were enrolled.

Henry Enke is fitting up an elevator at Lake Benton, Minn., and when completed will enter that market as an independent buyer.

M. M. Ganthrie of Blooming Prairie, Minn., contemplates the erection of an elevator at Ellendale, a new town on the B. C. R. & N. in Steele County, Minn.

D. C. Harrington of Pipestone, Minn., has not sold his line of elevators, as has been rumored. The deal which he had on foot was not consummated.

The farmers of Darfur, Minn., held a meeting last month to consider the matter of building an elevator. They decided that it would be preferable to build a creamery.

The exchange elevator, transfer and mixing house, built by Honstain Bros. at St. Louis Park, Minneapolis, Minn., is completed and in operation; capacity, 150,000 bushels.

The Sidnam Grain Co. recently purchased of C. D. Holbrook & Co. nine complete elevator outfits, including dump scales and gasoline engines, the latter ranging from 3 to 25 horsepower.

The Monarch Elevator Co. closed their house at Gary, Minn., last month. This is only one of the many elevators which this company has been compelled to close on account of the light crop.

The Cole & Hanson elevator at Marietta, Minn., has been completed, and is equipped with dump scales and a 5-horsepower gasoline engine. The elevator is in charge of C. B. Catlin of Madison.

The Farmers' Elevator Co., Renville, Minn., recently remodeled their elevator, putting in an 8x22 frame dump scale and a Coffield Gasoline Engine purchased of C. D. Holbrook & Co. of Minneapolis.

The farmers and merchants of Moundeville, Minn., have organized an elevator company and purchased the "round" elevator at that place for \$2,750. C. E. Barber was elected president, and G. A. Parks, secretary.

M. M. Guthrie of Blooming Prairie, Minn., has completed an elevator with a storage capacity of 25,000 bushels. It has a Fairbanks-Morse Dump Scale and gasoline engine; also grain cleaning machinery.

The Kenyon Farmers' Elevator & Mercantile Co. of Kenyon, Minn., recently purchased a 30-horsepower gasoline engine of C. D. Holbrook & Co. of Minneapolis, to operate their large elevator and feed mill.

The Farmers' Warehouse Association of Litchfield, Minn., held their annual meeting last month and decided to retain James Montgomery as manager for another year. They will build a warehouse near the elevator and handle farm implements and

machinery. This also will be in charge of Mr. Montgomery.

The Alfred Meuert Co., Milwaukee, Wis., has been incorporated with a capital stock of \$4,200, to succeed the grain firm of Alfred Menert & Co.

John F. Dunn of Black River Falls, Wis., has enlarged his grain warehouse, installed a power plant, put in an elevating system and a feed mill, and will be a buyer of considerable local corn.

The Coöperative Elevator Co., Lake Benton, Minn., recently remodeled their elevator, putting in a new leg and dump and a 7-horsepower gasoline engine purchased of C. D. Holbrook & Co. of Minneapolis.

The Globe Elevator Co. of Milwaukee have leased their elevator at Waukesha, Wis., to Fred Kraner & Co. of the former place. Their retail feed business has been purchased by Geo. Hoag and John Rankin of Waukesha.

The Consolidated Elevator Co. will remodel its Elevators B, D, E and F at Duluth to comply with the rules of the underwriters. The improvements will include a complete dust collecting system, additional water mains, sprinklers, etc.

The Northern Grain Co. of Chicago has for some time contemplated increasing its storage capacity at Manitowoc, Wis. It is now reported that additional storage capacity for 1,500,000 bushels will be provided by the erection of steel tanks.

St. John Bros. of Heron Lake, Minn., recently purchased from C. D. Holbrook & Co. a 5-horsepower gasoline engine for their elevator at Rushmore. They are also putting in one of the same size in their elevator at Westbrook, Minn.

The Tri-State Elevator Co., Minneapolis, Minn., was incorporated last month with a capital stock of \$100,000, to do a general grain elevator business. The incorporators are S. M. Passmore, C. C. Turner, A. F. Brenner of Minneapolis and W. Passmore of Milwaukee.

IOWA.

A new grain elevator is now in operation at Colo, Iowa.

Burt Thomas has sold his elevator at Beaman, Iowa.

F. B. Carson has purchased the elevator at Gladstone, Iowa.

The new Bowen Elevator at Rossie, Iowa, is about completed.

J. H. Tank is doing business in his new elevator at Renwick, Iowa.

Hardie & Ketchen have sold their elevator at Wallingford, Iowa.

Sherman & Forsyth have succeeded W. J. Nicholson at Richland, Iowa.

Erving & Bump have built an addition to their elevator at Delta, Iowa.

Chris Williams is having an elevator built at Stratford, Iowa, 24x28 feet.

E. R. Schlosser has sold his grain business at Colfax, Iowa, to Brown & Son.

E. H. Reimers has added a grain cleaner to his elevator equipment at Harris, Iowa.

James Smith has succeeded Smith & Reidy in the grain business at Winthrop, Iowa.

There is a rumor that the farmers will organize an elevator company at Dysart, Iowa.

C. L. Thompson continues the grain business of Thompson & Wallace at Rutherford, Iowa.

E. O. Brown & Co. have purchased Parker & Finekiet's grain business at Alta, Iowa.

The Nye & Schneider Co. have purchased J. W. Clark's grain business at De Witt, Iowa.

A. Wedgewood of Storm Lake, Iowa, has sold his elevator to E. B. Michael of Bigelow, Minn.

Lamp & Crowe have succeeded to the grain business of Lamp & Valentine at Mapleton, Iowa.

The Northern Grain Co. have built a corn crib 10x80 feet near their elevator at Wheelerwood, Iowa.

Andrew Milligan has completed a 15,000-bushel elevator on the Illinois Central sidetrack at Tara, Iowa.

Ed. Stevens of Cleghorn has leased the Hall Elevator at Cherokee, Iowa, taking charge on January 1.

The McFarlin Grain Co. of Des Moines are making preparations for erecting a number of elevators in the spring along the lines of the Milwaukee road.

The value of the possession of more than one railroad by a town was forcibly illustrated at Manson, Iowa, last month. Had not the Rock Island road furnished cars freely when the other road

could not furnish one, the grain buyers would have had to cease buying indefinitely.

William Darnell has purchased Isaac Miller's elevator at Wellman, Iowa, and is conducting a grain and coal business.

Evans & Corbett of Evanston, Iowa, have moved part of their corn cribs to Border Plains, where they are now buying corn.

The Tri-State Elevator Co. have succeeded the Sidnam Grain Co. as owners and operators of elevators at stations on the Chicago Great Western Railway.

H. J. Reis of Armstrong, Iowa, is building a new elevator at Walters, Minn. Flemming Bros. of Armstrong will also build a new elevator at that point.

Geo. E. Haney has purchased an elevator at Manson, Iowa, from H. H. Lohnes. It will be occupied until March 1 by the present lessees, James Harper & Co., when Mr. Haney will operate it himself.

A. M. Davidson of Riceville, Iowa, whom we reported last month as having bought Gilchrist & Co.'s grain business, has also built a 22,000-bushel elevator there. This is a good location and he is enjoying a good trade.

F. A. Scott of Eagle Grove, Iowa, informs us that the firm of Scott & Sidwell at Florence, Iowa, was dissolved on January 1, Mr. Scott selling out to his partner, Chas. F. Sidwell, who continues the grain business alone, with every prospect of doing a nice business.

G. M. Gwynn is now doing business in his new elevator at Essex, Iowa. Power is furnished by a 7-horsepower Foos Gasoline Engine and the handling capacity is said to be unusually large for a house of this size. There are six dumps, so that the grain can be graded as received.

THE DAKOTAS.

The Empire Elevator at Bristol, S. D., has been closed for the season.

An elevator will probably be built in the spring at Windsor, N. D., by James Johns.

The Atlantic Elevator at Cuba, N. D., has been closed for the balance of the season.

Parker Bros. have succeeded H. E. Parker in the grain, flour and feed business at Sioux Falls, S. D.

Thomas Cochrane has succeeded Earl Pepper as buyer for the St. Anthony Elevator at Finley, N. D.

The Charles Mix County Milling Co. has contracted for the erection of a mill and elevator at Platte, S. D.

Among the numerous elevators recently closed by the Monarch Elevator Co. is the one at Jamestown, N. D., for which C. G. Shortridge was buyer.

The American Grain Co. has greatly enlarged its corn cribs at Canova, S. D., to care for the increased amount of corn being raised in that vicinity.

John Doyle of Wishek, N. D., recently purchased a complete elevator outfit, including dump scale and Coffield Gasoline Engine, of C. D. Holbrook & Co., Minneapolis.

W. B. Tobey of Mitchell, S. D., recently purchased of C. D. Holbrook & Co. of Minneapolis Coffield Gasoline Engines of 3 and 5 horsepower for his elevators at Mitchell and Ethan.

MISSOURI, KANSAS AND NEBRASKA.

Jones & Clark are building a grain elevator at Coats, Kan.

The Quaker Valley Mill, Lowell, Mo., is completing a grain elevator.

Scottsville, Kan., expects to have one or more new elevators in the near future.

Geo. H. Wyatt continues the feed business of Brady & Wyatt at St. Joseph, Mo.

O. P. Smith continues the grain business of Smith & McClary at Princeton, Mo.

One of the grain warehouses at Monroe, Neb., has been converted into an ice house.

The firm of Coleman & Fanning continue the grain business of David Coleman at Denison, Kan.

Blythe & Patton is the name of the grain firm succeeding Blythe & Schemberger at Blue Springs, Neb.

G. W. McMillen has purchased J. E. Humphries' grocery, feed and grain business at Arkansas City, Kan.

T. B. Hord is completing a second elevator at Central City, Neb., with a capacity of 60,000 bushels.

Turner & Brenner of Wayne, Neb., have replaced the steam engines in their elevators at Washington and Ceresco with Coffield Gasoline Engines,

purchased of C. D. Holbrook & Co. of Minneapolis.

George Coryell of Glenrock has purchased and will operate the Greenleaf & Baker elevator at Julian, Neb.

J. W. Worl has moved from Sterling, Neb., to Kingfisher, Okla., where he will engage in the grain business.

Jesse Starbuck of Hebron, Neb., recently purchased and took charge of the Henney Elevator at Horton, Kan.

G. W. Folsom of Waterville, Kan., has purchased a grain warehouse and is remodeling it into an elevator.

The Kansas Grain Company have built an office at Sylvia, Kan., and will doubtless build an elevator there next summer.

The Ferguson Elevator, Hebron, Neb., was thoroughly overhauled and refitted before being put in operation last month.

A contract has been let for the erection of a large elevator at Springfield, Mo., for the milling firm of John F. Meyer & Sons.

H. H. Bartling & Sons have taken possession of the elevator which they purchased of R. L. Hanks at Brock, Neb., a short time ago.

C. N. Smith, the new owner of the elevator at Deep Water, Neb., has been buying an unusually large amount of corn there this winter.

The Loup Valley Grain Co., Ord, Neb., are building a new brick engine house and will replace their steam power plant with a gasoline engine.

The Omaha Elevator Company closed its house at Shelton, Neb., early in December, because of the small amount of grain being brought to market.

Armstrong & Grigsby, succeeding Pattison & Quinn, at Fayette, Mo., are engaged in buying grain and conducting a retail flour, feed and grain store.

The Harroun Elevator Company, St. Joseph, Mo., will increase their capital stock from \$50,000 to \$100,000 to meet the demands of their growing business.

The Stafford Mill & Elevator Co., Stafford, Kan., have let a contract to the Steel Storage & Elevator Construction Co. of Buffalo, N. Y., for erecting a 50,000-bushel elevator.

The Duff Grain Company, Nebraska City, Neb., who at present have a 100,000-bushel elevator there, have let the contract for a steel elevator of 200,000 bushels' capacity.

The Calloway Milling & Manufacturing Company of Calloway, Neb., has been incorporated with a capital stock of \$20,000, to buy and sell grain, etc. The incorporators named are J. Moran and T. Norbury.

CANADIAN.

A million-bushel elevator for Port Arthur, Ont., is being talked of, to be erected by Mackenzie & Mann.

The Grand Trunk Elevator at the foot of Brock Street, Toronto, contains at present 200,000 bushels of Ontario wheat. This will be shipped to Portland in March for export.

E. Nicol & Son and the Ogilvie Co. have closed their elevator at Boissevain, Manitoba, for the present. The new year found the mercury 44 below zero at this place.

J. E. Botsford and F. D. Jenks of Port Huron, Mich., are negotiating with the Grand Trunk Ry. and the town of Sarnia, Ont., regarding the erection of a million-bushel elevator at the latter place. They ask for a site and some financial assistance.

OUR CALLERS

We have received calls from the following gentlemen prominently connected with the grain and elevator interests, during the month:

F. S. Cole, Seattle, Wash.

Felix O'Melia, St. Louis, Mich.

F. P. Humphrey, Shenandoah, Iowa.

C. G. Hammond, of Huntley Mfg. Co., Silver Creek, N. Y.

Robt. S. Culbertson, representing the S. Howes Co., Silver Creek, N. Y.

Owing to the complicated state of affairs of the fire underwriters of Kansas City and the refusal of some agents and companies to accept the Fetter rating, the assured about January 1 were getting all sorts of bargains, for rates were cut at a lively gait. All the grain elevators situated in the east bottoms, with the exception of Exchange and Heim houses, have been written at from 25 to 50 per cent below the estimated tariff.

Items from Abroad

The average yield per acre of wheat in New Zealand, crop of 1899-1900, was 31.81 bushels; oats yielded 40.99 bushels per acre, and barley 33.02 bushels.

The stories of hail destruction of wheat in the Argentine are disproved by the fact that no claims of consequence have been filed with the insurance companies.

The Great Southern Railway Company of the Argentine Republic on December 1 put into effect a new tariff for cereals, being a reduction of about 30 per cent.

The official estimate of the wheat crop of New South Wales is 17,000,000 bushels, an increase of 4,500,000 over last year. The exportable surplus will be about 8,000,000 bushels.

By virtue of an irade of the Sultan, a Corn Exchange has been established at Constantinople. Sessions will be held temporarily at the Turkish Chamber of Commerce at Galata.

Grain Dryers, Limited, is the name of a new London company with capital of \$15,000, organized to carry on the business of drying "all materials appertaining to the vegetable kingdom," including by-products.

Wheat exports from Argentine Republic for first ten months of 1900 were 70,490,613 bushels, an increase of 12,736,693 bushels over 1898; of corn, 22,035,440 bushels, a decrease of 8,131,520 bushels compared with 1899.

The British Railway Commission recently decided that a shipper owning private sidings therefor renders certain valuable services to the railway and is entitled to a lower rate of freight than the shipper who owns no siding.

The German Colonial Association has petitioned the government to take steps to increase corn production in the colonies. To offset the vast difference in freights, the petitioners propose that colonial maize be admitted to Germany free of duty.

The contending elements in the German Reichstag have agreed to the agrarian proposition of an increase of cereal duties in the new tariff law. This agreement will levy a tax of about 44 cents per bushel on imported cereals, which is practically prohibitive.

Three-fourths of the land in Tripoli is seeded to barley, which constitutes the food of the bulk of the people. The grain is of excellent quality, and, being very white, is much sought after for malting purposes. The surplus above local needs goes to England.

The "analysis" clause in Anglo-Russian wheat contracts has made a start, a Russian seller having in December accepted a contract providing that analysis of both sample and bulk shall be made to ascertain the foreign matter, the buyer to pay the expenses.

The canals of Great Britain are in so neglected a condition that a royal commission of inquiry has been asked for. The petitioners, representing various interests, think that the successful American competition in heavy goods with England is due, in part, at least, to the excessive English freights from the factory towns to the ports.

Receivers at Liverpool complain of the excessive dock charges for the removal of cargos; and an agitation has begun looking to their reduction and to the improvement of the dock facilities for handling freight of all kinds, especially of grain, the trade in which, unless relief is furnished, will, it is claimed, be diverted to more southerly ports, such as Bristol, etc.

The British Board of Agriculture issued its annual estimate of crop yields in December. The total yield of wheat in Great Britain and Ireland is given as 54,600,000 bushels, which, with the exception of 1895 (38,400,000 bushels), 1893 (51,000,000 bushels), and 1879 (47,200,000), is the lowest total on record since 1867, at least. In 1868 the yield was 132,000,000 bushels, and for the ten years following did not fall below 81,600,000 bushels in any year. The average yield per acre is given as 28.5 bushels.

The Review of the River Plate, dated December 1, 1900, while saying that "an extra-special Providence has watched over the development and ripening of the crops this year," nevertheless adds that "the tale the wheat harvest will tell will be a varied one, and as cutting and thrashing proceed, it will be found that quality and quantity will alike be inferior to last year's." On January 2, cables were received from Buenos Ayres giving the official estimate of the minister of agriculture of 65,300,000 bushels for export, or only 9,000,000 bushels less than last year. The weather was reported favorable for harvesting and the movement of wheat beginning. Corn was reported as tasseling, with prospects for an average crop.

CROP REPORTS

The largest acreage of wheat ever sown in the history of the San Joaquin Valley, California, was sown last fall.

The Kansas wheat crop is reported in good condition. The principal complaints are of jointing from excessive growth, but the prospects, on the whole, are excellent.

Wheat in Central Kentucky is reported in poor condition. Much of it was killed by early drought, some was uprooted, but was not sufficiently set to withstand the first freeze and was about killed out by the cold. Many farmers will plow up their fields and put in corn.

The situation as regards seed wheat in North Dakota is said to be desperate. The elevators are all shipped out, and not one farmer in ten has seed. Most of the wheat remaining in the country is so damaged as to be unfit for seed. Wheat will have to be shipped in for this purpose.

Hessian fly is at work in some parts of Texas. The wheat acreage, according to J. P. Harrison, president of the Texas Grain Dealers' Association, will be larger than last year, as will be the oats acreage also. He thinks there will be a decreased acreage of corn, some corn lands being planted to cotton.

The final report for 1900 of the Iowa crop and weather bureau shows that the wheat crop was 21,200,000 bushels, valued at \$12,799,371; oats, 138,832,340 bushels, valued at \$27,966,466; rye, 1,621,000 bushels, valued at \$697,000; barley, 12,694,260 bushels, at \$4,188,000; flax, 1,222,000 bushels, at \$1,834,000. The corn crop was the largest in the history of the state, 345,055,000 bushels, valued at \$93,164,000. Hay was an important item, amounting to 4,139,000 tons, which brought \$31,100,815, the largest of any crop aside from corn.

In Ohio dry weather and the absence of snow to protect the wheat from thawing and night freezing have injured the growing crop. Reports of damage come from various parts of the state. The condition of winter wheat as compared with an average is reported by the Ohio Department of Agriculture as 78 per cent; winter barley, 84 per cent; rye, 87 per cent. The Hessian fly has damaged much of the early sown wheat. Late sown wheat has been damaged by cold. But the condition is not so bad as a year ago. The condition of corn in crib is generally good.

The crop bulletin of the Illinois Department of Agriculture for December shows that in the northern district of the state the small acreage of wheat is generally in fine condition. In the central district there has been considerable damage to wheat by Hessian fly. In the southern district the wheat looks well, but dry weather has prevented a vigorous growth in a few localities. There has been some injury by Hessian fly to early sown wheat, and some damage by recent cold is reported. The weather conditions have been very favorable for rye, a large crop of which has been sown in the northern district of Illinois.

Official state statistics on the crops in Indiana show that the 1900 wheat crop was 7,840,000 bushels, the smallest yield for many years. The acreage sown in the fall of 1899 was 2,674,000 acres, of which only 974,000 were harvested. A full crop in Indiana is over 40,000,000 bushels. That of 1899 was 25,000,000 and of 1898 38,000,000 bushels. The corn yield of 1900 was 170,000,000 bushels, the largest ever known. The corn crop of 1899 was 142,000,000, and in 1898 was 129,000,000 bushels. Recent reports as to the prospect of fall sown wheat indicate the prevalence of fly in considerable numbers, with poor outlook for the crop of 1901.

Crop report No. 7, issued by Secretary A. H. Bewsher, of the Nebraska Grain Dealers' Association, shows a total corn acreage for the state of 6,291,000 acres, of which but 83.4 per cent was harvested, on 5,246,800 acres. From this was gathered 143,650,317 bushels, or an average yield of 27.18 bushels per acre. About 79 per cent of this will grade No. 3 or better, or 113,627,000 bushels. About 53.3 per cent of the crop, or 76,493,000 bushels, will be required for home feeding. The winter wheat acreage of the state, as compared with last year, is a little better than 129 per cent, giving an acreage of about 1,068,400 acres. The condition as compared with the same time last year is about 14 per cent better.

The estimate of the statistician of the department of agriculture on the wheat crop of 1900 is 522,229,505 bushels from 42,495,385 acres, giving an average yield of 12.29 bushels to the acre. Of this estimate 350,025,409 bushels were winter wheat and 172,204,096 bushels spring wheat. The average condition of the growing crop on December 1 was 97.1 per cent of the normal. In Ohio, Michigan, Kentucky and Tennessee the condition is low—86, 80, 87 and 84 respectively, but this is offset by the exceptionally high condition reported from Kansas,

Missouri, California, Oklahoma and other states, all of which is above normal. The production of corn in 1900 is estimated at 2,105,102,516 bushels; oats, 809,125,989 bushels; barley, 58,925,833; rye, 23,995,927; buckwheat, 9,566,966 bushels, and hay, 50,110,906 tons. The corn and oat crops were exceptionally large, while the barley, rye, buckwheat and hay crops were exceptionally small.

PERSONAL

Jacob Marble now has charge of the elevator at Foster, Ind.

J. M. Brown of Le Roy, Minn., has charge of the elevator at Marna, Minn.

John G. McKillop, grain merchant at West Lorne, Ont., was married recently.

Owen L. Brining, a grain dealer of Le Roy, Ill., has been quite ill with the grippe.

Paul G. Wood, grain buyer, has removed from Lilly Chapel, Ohio, to Norwood, Ohio.

William Snsdorf of Philo, Ill., will take charge of his father's elevator at Prospect, Ill.

Eli Cummings of Noblesville, Ind., is now manager of the elevator at West Union, Ind.

William Keith of Goldfield, Ia., succeeds William Camery as manager of the elevator at Traer, Ia.

A. Doorley of Cedar Falls, Iowa, is representing the Nye & Schneider Company at De Witt, Iowa.

Robert Chambers will have charge of the elevator of his father, lately deceased, at Clarinda, Iowa.

J. S. Taylor, recently of Lavinia, Iowa, has charge of the elevator of Pease Brothers at Storm Lake, Iowa.

John Selmser is manager of the Van Dusen elevator at Watertown, S. D., succeeding Mr. Carroll, who recently died.

W. B. Hatton has resigned as agent of the Imperial Elevator Company at Milton, N. D., to take effect February 1.

Albert Banlig of Auburn, N. D., is in charge of the St. Anthony & Dakota Elevator Company's interests at Cavalier, N. D.

J. E. McNamara of Avoca, Minn., is said to be a candidate for a position as grain inspector under the new state administration.

B. T. Turner, agent for the Anchor Grain Company at Grandin, N. D., has closed the house for the winter and gone to Fargo.

A. W. Augspurger of Farmer City, Ill., has taken a position in the main office of the Cleveland Grain Company at Cleveland, Ohio.

H. B. Moore, chief weighmaster of the Duluth grain department, was presented with a gold watch, December 24, by his assistants.

George A. Bock, a grain buyer of Elkhart, Ill., was prostrated in his office by an attack of apoplexy. He is reported as slowly recovering.

Johannes Dethleffsen and Johannes Schundt, extensive grain dealers of Hamburg, Germany, have been visiting the grain centers of the United States.

Emil Dieckman, manager of the Nye & Schneider Company's elevator at Schleswig, Iowa, has been promoted to a more important post at Fremont, Neb.

John Waldroff, who for several years was agent for the Monarch Elevator Company at Fertile, Minn., has gone into the furniture business in that place.

George W. Walker of Decatur, Ill., succeeds J. M. Shively in charge of Ulrich & Son's elevator at Cerro Gordo, Ill., known as the Shellabarger Elevator.

Hon. M. DeWolf of Lanes, Iowa, formerly a representative in the Iowa House, is now associated in the grain business with Hon. A. J. Wilson of Marathon, Iowa.

Lloyd J. Smith, who was recently tried and acquitted on charges of grain shortage as manager of the Chicago Elevator Company, is now identified with the Greer-Pike Company, manufacturers of railway supplies at West Harvey, Ill.

Wm. E. Cheeseman recently celebrated his thirty-second anniversary as official weigher of the Commercial Exchange, Philadelphia, Pa. Mr. Cheeseman inspected the first carload of grain that entered the Washington Avenue Elevator, the first cereal warehouse built in Philadelphia.

Edward S. Easton, head of the grain firm of E. S. Easton & Co., Peoria, Ill., has been adjudged insane and will be taken to a private sanitarium in the East for treatment. His estate, for which a conservator has been appointed, is estimated as worth \$500,000. Mr. Easton is 58 years old and

has been a trustee for the new state asylum for incurable insane, located at Bartonville.

Among the candidates for chief grain inspector in Minnesota the names of Alex Stewart and A. B. Robbins have been prominently mentioned. Mr. Stewart is now manager of the Monarch Elevator Company, of the Peavey line. Mr. Robbins is a well-known Minneapolis grain and elevator man.

Schuyler Hazard, assistant engineer of the New York Central Railroad, has made a tour of inspection to the lake ports and Minneapolis, visiting the elevators at Chicago, Buffalo and Duluth, to acquire information which may be of interest to the New York Central in the construction of a proposed grain elevator at the port of New York.

E. W. Wagner, the prominent grain commission merchant of the Chicago Board of Trade, was married on the evening of January 7 at St. James Church, Chicago, at 6 o'clock, to Miss Anna Freya Rubens, a lady well known in North Side social circles. After the ceremony a supper and ball were given at the Germania Club, at North Avenue and Clark Street. Very many of Mr. Wagner's Board of Trade friends were present. Mr. and Mrs. Wagner are now on an extended trip East and will be at home the last of January.

FLAXSEED

The Midland Linseed Company, of Minneapolis, is enlarging its plant by the addition of ten new presses, which will make a total of forty presses in operation during 1901.

The linseed oil mills of Body & Noakes at Winnipeg, Man., were damaged by fire December 24. The damage was confined to the oil house and amounted to about \$1,500; fully insured.

With Duluth cash flaxseed at \$1.68, it would seem that imports of Argentine seed to New York are probable. London houses are said to be prepared to place Argentine seed c. i. f. New York in February on a basis of \$1.65 Duluth.

The North Dakota Linseed Oil Mills, located at Grand Forks, N. D., is an independent mill for the manufacture of a fine grade of oil meal for feed and also linseed oil for painting purposes. It affords a market for any kind of flaxseed, no matter how badly damaged.

The adaptability of some parts of North Dakota for flax growing has resulted in a great influx of settlers. The section known as No Man's Land, which was formerly considered barren waste, has been populated within the past two years. So far from being barren, the soil in this locality has yielded 14 bushels of flax to the acre.

The Argentine flax crop is now moving, and the estimates of the surplus available for export vary from 400,000 tons to 600,000 tons, i. e., 14,000,000 to 22,000,000 bushels. The lower figure is evidently the nearer correct, as the London Times' estimate of the entire crop is only 20,226,000 bushels, and this is based on the high estimated yields of 12 to 16 bushels per acre.

Southeastern Kansas has gone into flax raising and has found the crop profitable. The first flax was sown in that section in the spring of 1899. The net result was a profit of about \$15 an acre. Last spring thousands of acres were planted and the yield was 12 bushels to the acre. The crop was generally sold at \$1.50 a bushel and upward, and now the farmers of Southeastern Kansas regard flax as a fixture.

Flax harvesting in Northern Minnesota this year has been peculiar. The fall was so wet that it was found impossible to get onto the lands. Soon after the ground froze up a heavy fall of snow came. The crop was then cut with mowers, the sickle bar being entirely under the snow. The flax stood straight up after it was cut, but was gathered without difficulty by the hay rake. Nearly the entire flax crop was saved in this way and has proved very profitable.

A flax flurry on the Duluth Board of Trade marked the closing days of December. It is said to have been engineered by E. C. Warner of Minneapolis. He began to accumulate the December option in the Duluth market early in September. During the progress of the deal he accumulated about 65,000 bushels and put up the price from \$1.65 to \$1.80 1/2. At the close about 40,000 bushels were settled at \$1.70 and 10,000 bushels remained to be settled by the clearing house.

The United States Circuit Court of Appeals has denied the motion of James Clark and other minority stockholders of the National Linseed Oil Company for the appointment of a receiver for that company. The decision of the lower court is sustained. The Court of Appeals says that it is evidently the purpose of the complaining stockholders to get control through a receivership of the company's right of action against the di-

rectors, so that suit can be prosecuted against them in the name of the company and at its expense. The charges against Director Euston and others, who were said to have tried to corner the linseed market and got caught, at the expense of the company, are held to be not proved to a certainty.

OBITUARY

M. E. Forseman, a grain dealer at Bennett, Iowa, is dead.

Henry Joost, of H. Joost & Brother, grain dealers, San Francisco, Cal., is dead.

James Worm died at his home in Whitewater, Wis., December 23, aged 78 years. He was a native of Denmark and settled in this country in 1840. At one time he was engaged in the grain business at Whitewater.

Thomas J. Carr died at his home in Hamilton, Ohio, December 17, aged 77 years. He was a native of Ohio and for many years was a commission merchant and grain dealer at Hamilton. Two sons and three daughters survive him.

Col. A. S. Chadbourne died at his residence in Vinton, Iowa, December 28. He was a native of Maine, and after the Civil War, in which he took a conspicuous part on the Union side, he settled in Vinton and engaged in the grain business.

F. R. Magner, president of the Leevings Brothers Seed Company, of Paris, Ill., was instantly killed while hunting December 14. He was climbing over a fence, when his gun was accidentally discharged. Mr. Magner was 64 years of age and unmarried.

Henry Wallace, an old-time Chicago Board of Trade man, was found dead in his office at 12 Sherman Street, December 18. He had resided in Chicago for thirty years and at one time was quite wealthy. Of late years he had been acting as a settling clerk.

C. H. Crawford died at his home in Hedrick, Iowa, January 4, of typhoid fever. Mr. Crawford was formerly manager of the La Cledle Hotel in Ottumwa, Iowa, but six months ago moved to Hedrick and engaged in the grain business. He is survived by his widow.

F. L. Knapp, a prominent grain dealer of Hastings, Neb., was killed by a railroad train in that town December 6. Mr. Knapp, who is quite deaf, was crossing the tracks and was struck by a fast train. He was dead when picked up. He leaves a wife and one son.

Thomas B. Bailey, a grain dealer of Beloit, Wis., aged 70 years, died suddenly in that city January 4. His death was due to heart disease. For fifteen years he was a member of the county board of supervisors. He was proprietor of the Chicago, Milwaukee & St. Paul Elevator.

Stephen G. Hooker died at his home in Chicago January 1, from injuries received that night by falling down the front steps. He was 76 years old and leaves a widow, three sons and two daughters. Immediately after the Chicago fire he engaged in operations on the Board of Trade, and accumulated a fortune.

Israel H. Lowry died at Milwaukee, Wis., December 13, aged 68 years. He was a native of Ohio, and settled in Milwaukee in 1874, going into the grain business. For many years he was one of the most prominent and extensive operators on the Milwaukee Board of Trade. He is survived by a widow and six children.

Charles Henderson, a grain dealer and part owner of the Leesburg Grain Company, Leesburg, Ohio, was killed by a fast train at that place about 6 o'clock a. m., December 25. Mr. Henderson was driving across the track and failed to see the approaching train until it was too late to get out of the way. He was terribly mangled and killed instantly.

James Miller died at his home in East Des Moines, Ia., January 1, aged 85 years. James Miller was a native of Kentucky and settled in Des Moines in 1856. After the war he bought out a grain business in Des Moines, which he conducted until about ten years ago. Since that time he had been blind and an invalid and confined to his house. He is survived by one son, N. J. Miller, who is superintendent of mails in the Des Moines postoffice.

Melville S. Nichols died December 20 at the residence of his son-in-law in Chicago, aged 82 years. Mr. Nichols was one of the early members of the Chicago Board of Trade, which he joined in 1858. He was one of the principal operators in the famous lard corner of Peter McGeogh in 1883, and is said to have lost \$1,000,000 when that deal collapsed. For a quarter of a century, between 1858 and 1883, he transacted the

largest brokerage and commission business then handled in Chicago by any one man or firm.

Zina J. Frost died at his home in Austin, Ill., a suburb of Chicago, January 5, aged 73 years. He was ill but a few days with pneumonia. He was once a member of the Chicago Board of Trade, and was known as one of the boldest operators. In 1883 he lost heavily in the famous lard corner. He leaves a widow and one son.

Joseph Kearney died at Boulder, Colo., December 3, aged 27 years. He was formerly a resident of Dubuque, Iowa, but five years ago he removed to Boulder, Colo., on account of his health. He was there associated with E. L. Robinson in the management of the John G. Morrison Grain & Brokerage Company. He was not married.

William Irvine, a grain dealer of Fredericktown, Ohio, was found dead at daylight on the morning of December 14, in a vacant lot in that town. When found he was in a kneeling posture with his hands clasped to his heart, as if suffering great pain. He is supposed to have died from heart failure. A wife and two sons survive him.

John Howard Jones died at his home in Oak Park, near Chicago, from heart failure, December 27. Deceased was 64 years old. In 1875 he took the position of chief clerk to the chief grain inspector of Illinois, a position which he held for ten years. Of late years he had been engaged in the brokerage business with his son at Chicago.

Carl Morton, president of the United States Sugar Refinery Company at Waukegan, Ill., died January 7, after a week's illness with pneumonia. He was 35 years old, and had lived at Waukegan about a year, during the rebuilding and enlargement of the glucose works. He was a son of J. Sterling Morton, of Nebraska, and a brother of Mark and Joy Morton of Chicago and Paul Morton, vice-president of the Santa Fe Railroad. He leaves a widow and two children.

A. E. Kent died January 8 at the home of his niece in Genoa, Neb., where he was visiting. He was a native of Suffolk, Conn., and was 70 years old at the time of his death. He graduated from Yale College in 1853 and was admitted to the bar at Binghamton, N. Y., in 1859, but gave up his profession to engage in the fur commission business. In the same year he formed a partnership with his brother, the late Sidney A. Kent, in the packing business at Chicago. During the civil war and as late as 1872 A. E. Kent was the most prominent packer in Chicago. In the early '70s his health failed and he removed to California, but retained his interests in the grain commission business until 1880. Mr. Kent was a great student and especially in his later years delighted in linguistic and scientific investigations. He was a liberal contributor to charitable objects and gave \$75,000 to found the Kent chemical laboratory at Yale. He is said to have been the originator of the system of option or future trading as practiced on the Chicago Board of Trade.

AN HISTORIC CHARACTER GONE.

Along about the middle of December there was buried from the home of the Little Sisters of the Poor in Baltimore one John N. Gardner, who, previous to the admission of himself and his aged wife to the home, had earned a meager stipend for his old age as keeper of the Lombard Street gate to Patterson Park. This pathetic end of life had nothing about it to denote that John N. Gardner had been other than one of the merest fragments of the humanity of a great city; and yet at one time Mr. Gardner was a man of considerable wealth and of great business enterprise—an epoch maker and an original force in the grain trade, especially of that now important factor of the grain export trade of this country, the port of Baltimore.

It was on March 11, 1867, that his first floating elevator, named the Baltimore, was exhibited at Bowley's wharves, and the entire membership of the Corn and Flour Exchange was invited to witness its operation. The expressions were various, says the Baltimore Sun. One member, who to-day is a wealthy grain exporter, said it worked too rapidly. Others said it was ahead of the times and could not be successful. While these adverse criticisms were being uttered in the presence of Mr. Gardner, the elevator had discharged a bay vessel named Sam Croft and transferred the grain into the schooner Race Horse.

This elevator met the fate of so many other machines that were destined to revolutionize the methods of types of business already growing great, but destined to become still greater, and chiefly through the use of the very machines which the dead inertia of trade custom had stupidly sought to condemn as too radical ever to be useful. The story is old and familiar. "A sentiment against" the elevator arose among those who were known as bushmen, who loaded and discharged vessels with bushel measures. Their influence deprived the elevator of business, and the prophet

not without honor save in his own country took his elevator to New York and sold it there.

Nothing daunted, Mr. Gardner built for the Northern Central Railway at Jackson's wharves, foot of Bond Street, Baltimore, in 1868, a stationary elevator. This handled the first grain ever brought to Baltimore in cars. When the Union Railway was built, Mr. Gardner built another and larger elevator at the foot of Fifth avenue, Canton, Baltimore. Its destruction by fire in 1882 is well remembered, as several vessels were badly burned at the time. It was known as Gardner's elevator.

Stationary elevators which hold millions of bushels of grain and floating elevators moving about the harbor and pumping grain from vessels and transferring it to great steamers are the outgrowth of Mr. Gardner's enterprise.

GROWTH OF THE SEED BUSINESS

The census of 1890 showed that there were in the United States 596 seed farms, containing 169,850 acres, of which 96,567 acres actually were producing seed crops. Of these farms, 200 were established between 1880 and 1890, and the rate of increase during the last decade has been greater. It is now estimated by a good authority that 100,000 acres are devoted yearly to peas and half as many to beans. Probably the entire area devoted to seed production in the United States will exceed one million acres. The impossibility of making an accurate estimate of this acreage arises from the fact that seedsmen for years have obtained most of their seeds on the contract system, contracting with farmers in various parts of the country to grow the seeds to which their soil and climate are best suited. Many of these men grow only one or two varieties and make no return to the census office, so that it is impossible to say how many acres are thus used for seed production. In 1892 a single grower contracted for the product of 13,000 acres of vegetable seeds.

As an illustration of the remarkable growth of the seed business in this country, it is stated in a recent publication of the Department of Agriculture that thirty years ago 100 letters was considered a large business, while to-day some houses receive over 600 letters a day during the busy season. Firms that twenty years ago employed only one or two clerks now employ 100 during the winter months. A single western firm now has between seven and eight acres of floor space.

In general it is the practice of the seed trade to grow plants for seed purposes, where the product attains the greatest degree of perfection. Seedsman know where to look for their best seed, as well as for the cheaper grades. Certain localities are adapted especially to certain varieties; onion seed grown in Southport, Conn., tends to produce round bulbs, while that grown in Wethersfield, in the same state, produces flat ones. A seedsman must know the character and wants of every variety.

The one thing to be desired is fixedness of type. The tendency is all toward the production of new varieties. All good seedsman grow a special grade called "stock seed." This is kept solely for their own use, and is sent out to their growers to plant for the regular crop. This "stock seed" is grown and saved with unusual care. Every precaution is taken to keep the variety pure, and the selections are made with extreme rapidity. Only the best plants are used, and the destruction of so large a portion of the crop makes the stock seed too expensive for general sale. To prevent mixture absolutely the plants for stock seed are often grown in the middle of a large field of the same variety intended for crop purposes. This prevents the bees from bringing foreign pollen to the selected plants and insures purity of stock. The seed-grower has always to guard against the mixing of varieties. To prevent this only one variety commonly is grown on a farm, and care is taken to see that a near neighbor is not growing another variety of the same species.

The Turney Dryer Company, operating a drier at Exeter Station, near Reading, Pa., has been making about 4,000 pounds of dried distillers' grains per day, which is sold sacked at 70 cents per 100 pounds.

Maine has enacted a law enabling the Board of Trade at Portland to appoint grain inspectors. The inspection has been desired on account of the complaints of British receivers that grain has not been up to the quality of samples. Robert Sharp has been appointed inspector.

A corn growers' and stockman's convention will be held in Champaign, Ill., on January 14-15, at the College of Agriculture, in connection with the school of instruction in corn and stock judging. Every farmer present is asked to bring 10 ears of corn with him to show the varieties grown in different parts of the state. The meeting will afford opportunity for practice in judging all kinds of farm stock and grain, and there will be lectures in management, tests of the vitality of seeds, etc. Board and lodging need not cost above \$6 per week.

THE GRAIN TRADE IN 1900.

In the department of "Communicated" in this number of the "American Elevator and Grain Trade" some of the secretaries of the leading exchanges have briefly reviewed the past year's business in grain at the exchanges under their observation. To these may be added similar briefs covering the year at other markets.

BALTIMORE.

Secretary Wm. F. Wheatley of the Baltimore Chamber of Commerce, in the Daily Produce Report, says: "Again our country exceeds all others in the value of her exports, the volume for the past eleven months being \$1,308,000,000. But the grain trade has not participated in this business revival, and the amount of traffic in the various cereals does not compare favorably with last year. As a rule the various ports have all retrograded with one single exception—Philadelphia—but Baltimore has apparently been a sufferer to a greater degree than any other single port."

The receipts and exports were as follows, compared with 1899:

	1900.	1899.
Wheat, bushels	9,010,604	10,373,699
Corn, bushels	43,028,709	49,386,692
Oats, bushels	7,736,302	7,324,418
Rye, bushels	676,638	1,568,267
Barley and malt, bushels	1,020,482	654,071
Cloverseed, bushels	84,208	100,269
Timothy, bushels	76,944	117,560
Hay, tons	57,899	46,365
Exports.	1900.	1899.
Wheat, bushels	4,432,217	9,549,270
Corn, bushels	41,158,625	46,786,127
Oats, bushels	3,999,886	4,005,107
Rye, bushels	86,227	1,262,131
Barley and malt, bushels	27,677
Cloverseed, bushels	55,874	66,416
Timothy, bushels	11,165	58,042
Hay, tons	21,735	11,679

BOSTON.

Boston's exports for the year 1900 show a decline in cereals, as will be seen by the following table from the *Globe*:

	1900.	1899.
Wheat, bushels	11,925,415	12,931,292
Corn, bushels	13,893,525	17,438,813
Oats, bushels	4,518,168	5,241,677
Rye, bushels	59,078	58,949
Barley, bushels	802,347	1,503,052
Peas, bushels	29,579	4,608
Flaxseed, bushels	358,944	475,092

DETROIT.

Grain merchants in Detroit handled a little over 2,000,000 bushels of grain more in 1900 than they did the year before, the total being 11,003,717, compared with 8,712,230 bushels for 1899. The gain was chiefly in oats, but there were also improvements in corn, barley and rye. A large loss was sustained in wheat, which was caused by the short crop in Michigan for the past two years. The figures given below do not represent Detroit's grain business completely, as many cars of corn, oats and barley arrive that are not inspected, going direct to maltsters and dealers. The receipts and shipments for the past year were as follows:

	Receipts.	Shipments.
Wheat, bushels	2,611,909	846,874
Corn, bushels	3,378,934	1,956,564
Oats, bushels	3,217,836	428,019
Barley, bushels	1,469,622	51,420
Rye, bushels	325,416	195,667

PHILADELPHIA.

Philadelphia is conspicuous as the only export market for grain showing an increase of business in 1900 over 1899, and also as having broken all the port's previous records. The receipts and exports were as follows:

	1900.	1899.
Wheat, receipts, bushels	6,505,274	4,845,697
Wheat, exports, bushels	5,342,215	4,081,249
Corn, receipts, bushels	33,812,661	31,702,368
Corn, exports, bushels	33,451,170	29,426,267
Oats, receipts, bushels	9,736,041	11,824,951

The exports of oats were 1,162,170 bushels less than in 1899.

KANSAS CITY.

"As a wheat market Kansas City last year broke all previous records, with receipts of 34,625,850 as against the highest previous receipts of one year of 31,161,000 for 1892," says the *Journal*. "The receipts the past year exceeded those of 1899 by more than 14,000,000 and the shipments were correspondingly heavy. The heavy movement of wheat through Kansas City during the year was due to several causes. The whole of the wheat belt tributary to the city had good crops, as did also Texas, which has ordinarily shipped much wheat to the Gulf ports. The domestic demand has been greater than usual because of the crop failures in the spring wheat and soft winter wheat belts of the United States and millers throughout the country required the wheat of this section for milling purposes."

"Corn receipts also made a new record for the past ten years, but it was of a different kind, the receipts having been smaller than in any previous year of the past decade, having been 8,272,000 bushels and nearly half a million bushels smaller than in 1899. The smallest receipts of any previous year for the past ten were in 1895, when the receipts were more than 100,000 bushels greater than in 1900."

"The receipts of oats were more than 900,000 bushels greater than for the preceding year and about 2,000 bushels greater than in 1898, but the receipts for those two years were smaller than for any other in the past ten years, the high water mark having been reached in 1891."

Rye receipts were smaller than for any year since 1895, and those of barley the smallest in ten years with but two exceptions. Receipts for the year were as follows.

Wheat, bushels	34,625,850
Corn, bushels	8,272,000
Oats, bushels	3,327,200
Rye, bushels	169,650
Barley, bushels	16,000
Flax, bushel	276,750
Hay, tons	136,350

DULUTH.

"The receipts of grain at Duluth during the year 1900 were the smallest in seven years," says the *Commercial Record*; "and they would have been still smaller if it were not for the fact that the receipts during the first half of the year, from previous crops, were about an average. We have to go back to 1899 to find a fall's receipts as small as they were this fall. Of the total of 46,853,000 bushels for the year, only 21,812,000 bushels was received from August 1 to January 1, and only 11,000,000 bushels of this was wheat."

The following statement shows the receipts for 1900 compared with 1899:

	1900.	1899.
Wheat, bushels	31,815,000	54,982,000
Flax, bushels	6,123,000	8,679,000
Barley, bushels	2,696,000	3,373,000
Oats, bushels	1,403,000	3,059,000
Corn, bushels	4,195,000	7,090,000
Rye, bushels	621,000	1,120,000

Total 46,853,000 78,303,000

The following recapitulation of grain handled by elevators is for 1900, in bushels:

Consolidated	18,325,000
Great Northern	7,120,000
Superior Terminal	6,001,000
Peavay	4,595,000
Globe	4,059,000
Belt Line	2,994,000
Itasca	2,477,000
Mills	1,282,000

The following statement shows the estimated capacity of elevators at Duluth and the Superiors, operating and under construction Aug. 1, 1900:

Operating elevators.	Per cent.	Bu capacity.
Consolidated	41.07	10,000,000
Globe	17.87	4,350,000
Great Northern	13.45	3,275,000
Terminal	9.03	2,200,000
Belt Line	9.03	2,200,000
Itasca	5.34	1,300,000
Peavay	4.21	1,025,000

Total operating capacity	100.00	24,350,000
Peavay (under construction)		3,500,000
Great Northern (under construction)		3,000,000
United States Milling Company (not in use)		1,000,000
Imperial Mill elevator		450,000
Daisy Mill elevator		300,000
Grand Republic Mill elevator		225,000
Freeman Mill elevator		200,000
Listman Mill elevator		125,000
Minkota Mill elevator		100,000
Anchor Mill elevator		30,000
Elevator "T" (mixer)		55,000
Elevator "R" (mixer)		35,000
Zenith elevator (mixer)		15,000

Grand total capacity		33,385,000
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CHICAGO.

In Chicago the grain trade year 1900 was one of exceptional activity. The receipts were heaviest on record (307,726,000 bushels) in spite of the scarcity of cars, while the shipments (232,267,109 bushels) increased 4.6 per cent, compared with 1899. The speculative market was proportionally active, showing an increase of clearings of 6.65 on business aggregating \$62,227,165.25, with balances of \$22,821,284.05. The speculative activity was concentrated, however, in the first seven months of the year, the last five months, and especially November and December, being exceptionally dull.

The year was noted for the sensational bull movement in wheat in June and the corn squeeze of November. The wheat episode was based on the reported shortage in wheat, owing to bad weather news from the Northwest, causing the price to advance rapidly from 61½ cents to 87½ cents under

enormous transactions, indicated by the total clearings in the speculative market of \$10,768,000 in June and \$11,638,000 in July, or about twice the volume of business for any other month of the year. The profits of the bulls who sold on the bulge were enormous. The corn squeeze is too recent to require review.

The receipts and shipments for the year were as follows:

Articles.	Received.	Shipped.

<tbl_r cells

Fires - Casualties

The elevator at Kirksville, Ill., was damaged by fire January 1.

Fire in an elevator at Lamonte, Mo., recently destroyed over 10,000 bushels of oats.

Montelins' elevator at Piper City, Ill., was slightly damaged by an incendiary fire December 30.

A broomcorn warehouse at Allenville, Ill., was destroyed by fire December 28. Loss, \$15,000.

The grain store of Matthews & Huston at Portland, Me., was damaged by fire and water December 27. Insured.

M. A. Clark's grain elevator at Jasper, Ind., was destroyed by fire recently, with a loss of \$5,000 and insurance of \$3,500.

The Farmers' Elevator at McIntosh, Minn., was shut down temporarily for a few days by the breaking of a plunger pin.

The storeroom of the International Stock Food Company at Minneapolis was burned December 23. Loss, \$20,000; insured.

By the bursting of a side wall of an elevator at Hinton, Iowa, 2,000 bushels of shelled corn were thrown out onto the ground.

The Kansas City Grain Company's elevator at Kenyon, Minn., was burned December 9. The fire started in an adjoining coal shed.

Frank Hupper's elevator at Farmingdale, Ill., was burned December 20, and was a total loss. It was full of grain. The loss was about \$3,500.

Louis Boehm, an employee of the Seyk Grain Company at Algoma, Wis., was smothered in a grain bin from which ears were being loaded January 3.

Thistlewood & Co.'s grain warehouse at Cairo, Ill., was destroyed by fire January 1. The loss on building was \$1,500 and on grain \$2,500; fully insured.

The new Peavey concrete elevator at Duluth gave way under pressure of grain December 7. A full account of this casualty will be found in another column.

Clegg Brothers' elevator at Parnell, Ill., burst and let 1,500 bushels of shelled corn roll to the ground. They secured ears as soon as possible and emptied the house.

The boiler in Cooper's elevator at Elk Creek, Neb., exploded January 6. Aside from tearing a large hole in one side of the boiler and ruining it, no further damage was done.

Fire which broke out in the grain and hay warehouse of Cyrus Jones at Lynn, Mass., December 19, damaged the building and contents to the amount of about \$2,000; insured.

Walter Johnson and D. Benefield, while working on Samuel Born's new elevator at Ash Grove, Ind., were precipitated thirty-five feet to the ground by the falling of a scaffold. Neither was seriously hurt.

J. E. Wright of Watertown, S. D., auditor for the McCaul-Webster Elevator Company, while inspecting a bin of wheat fell to the floor, a distance of twelve feet, and fractured his leg at the ankle joint.

The steam boiler in Houston & Horton's grain warehouse at Somerville, N. J., exploded December 12 and set fire to the building, which, with its contents, was totally destroyed. The loss was \$6,000.

The elevator of J. R. Smith & Son at Lamoni, Iowa, was burned recently. The fire is supposed to have started in the engine room. Building and contents were valued at \$7,500, and were insured for \$5,000.

The grain warehouse of J. F. Imbs at Adrian, Mo., was burned December 23. There was no grain in the building at the time, but all the machinery was lost. The fire was the work of an incendiary.

The Farmers' Elevator at Alexander, Minn., was burned to the ground December 11, with 16,000 bushels of wheat. The cause of the fire is not known. The loss on building was about \$5,000; fully insured.

The St. Anthony & Dakota elevator at Milton, N. D., was burned January 7, and was a total loss. It contained 18,000 bushels of wheat, 5,000 bushels of flax and 1,000 bushels of oats. The cause of the fire is not known.

The Exchange Grain Company's elevator at Hutchinson, Minn., was burned December 9 and is a total loss. About 13,000 bushels of wheat were burned. The books and entire contents of the office were destroyed. C. S. Tredway, the local manager, says that the company will rebuild on a larger and better scale. The loss on

building was \$3,750; insured. On grain the loss was about \$7,000, with salvage of \$1,100.

Ezra Martin's elevator at Northville, Minn., was destroyed by fire January 7. The fire originated in the engine room. The house contained 10,000 bushels of wheat. Loss on building and contents, \$8,000; fully insured.

Harper & Company's new elevator at Manson, Ia., was burned to the ground January 7. This was a new elevator located on the Rock Island road and was just completed and ready for operation. The loss is about \$3,000.

The West Elevator at Western, Neb., owned by Rundeberg & McCann, was totally destroyed by fire December 16. The loss was \$7,000 on elevator and machinery and \$1,000 on grain; insurance, \$4,000 on building and \$1,000 on grain.

The grain conditioning elevator of Jockusch, Davidson & Co. at Galveston, Texas, was destroyed by fire January 3. The blaze originated in the adjoining factory of the National Biscuit Company. The loss was partly covered by insurance.

Frank Lawrence, a young man aged 19 years, was smothered in a grain bin in his father's elevator at Newmarket, Ind., December 5. He was repairing an empty bin, when the grain in a bin above it was released and came down on him.

The Smith Grain Company's warehouse and contents at Little Rock, Ark., were totally destroyed by fire January 7. Ten freight cars of the Iron Mountain Railroad were burned. The loss on building and grain was about \$10,000, fully covered by insurance.

Fire was discovered in the elevator of Churchill & Co. at Perrysburg, Ohio, December 26, but was extinguished before serious damage had been done. Charles Maddy climbed to the roof and chopped a hole large enough to admit his body, and jumped in and extinguished the fire.

The Treadway Elevator at Eureka, S. D., operated by S. W. Treadway of Montevideo, Minn., was partially burned by a fire which caught in the cupola, probably from an overheated journal. The loss on building and 12,000 bushels of wheat which was damaged was \$10,000; insured.

Bert Benedict, an employee of the Benedict Elevator at Parsons, Kan., had his leg broken by getting it caught in a rope attached to the power grain shovel. While trying to step over the rope he stepped into the coil. The rope tightened and he was suspended seven feet in the air, head down.

H. F. Willis & Co.'s grain warehouse at Lexington, Miss., was destroyed by fire December 23. The loss to Willis & Co. on stock was about \$1,200, with \$700 insurance. The upper story of the building was occupied by W. B. Killebrew and family as a residence and they barely escaped with their lives, several persons sustaining serious burns.

E. P. Yates & Co.'s grain warehouse at Hartford, Conn., was burned December 25. It was a 5-story brick structure and had recently been refitted with new machinery. About 2,000 bushels of wheat, 100 tons of hay and 10,000 bushels of corn were destroyed. The loss on building, machinery and grain is about \$20,000. Insurance, \$16,500.

The Kansas City & St. Paul Elevator Company's elevator at Doon, Iowa, was destroyed by fire December 11, with 40,000 bushels of corn and a large amount of oats. The origin of the fire is not known. The loss was fixed by the adjusters at \$40,000—\$18,000 on the building and \$22,000 on the corn. A new grain house will be erected at once to take the place of the one burned.

The elevator of the Ferrin Brothers' Company of Detroit, located at Charlotte, Mich., was badly damaged by fire December 12. An employee built a fire in a stove on the second floor and left it to start a fire in the boiler room. In a few minutes the entire upper story was ablaze. The lower floors were saved by the fire department. The damage to the building was \$1,500; fully insured. About \$4,000 worth of beans were slightly damaged by water.

The walls of Lay & Weber's grain elevator at McComb, Ohio, were burst apart by the weight of corn with which the bins were filled, and 3,000 bushels of the grain were piled up on the ground. The elevator is located over a driveway leading through the mill, and this was completely filled with corn. The doors of the mill were forced open and the corn rushed into the wheat pits and damaged the scales and mill machinery. The loss is estimated at \$1,000.

L. R. Smith & Co.'s elevator at Sullivan, Ill., was destroyed by fire December 12. The origin of the fire is not known. It was discovered about 8 o'clock in the evening. About 6,000 bushels of corn were burned, as well as a car of shelled corn on the track and a crib containing 2,800 bushels of ear corn. The loss on elevator and machinery was about \$3,000; well insured. The firm received

corn as usual the next day after the fire and will rebuild on a larger and more modern scale.

The warehouses of A. E. Stearns at Mattoon, Ill., were destroyed by fire December 13, with about 100 tons of broom corn. Loss, \$11,000. It is thought that burglars entered the office and set fire to the building. The safe was found open after the fire, but the robbers got no booty.

COMMISSION

F. J. Schuyler has retired from the grain commission firm of W. F. Johnson & Co. at Chicago.

C. E. Lewis & Co. is the new style of the Charles E. Lewis Company at Minneapolis, Minn.

Munson & Wilkins, commission grain merchants of Chicago, have dissolved partnership, Munson continuing.

S. C. Woolman & Co. succeed Samuel C. Woolman in the commission grain business at Philadelphia.

The Federal Stock & Grain Company of Boston, Mass., has opened an office in the Sugden Block at Spencer, Mass.

Kent, Copp & Co., brokers of Detroit, Mich., have suspended. Their disaster is said to have been brought about by the failure of C. W. Morgan & Co. of New York.

John G. Mackey has entered the wholesale grain business at 434 Bourse Building, Philadelphia. Mr. Mackey was associated with E. L. Rogers & Co. for fifteen years.

George H. Daggett & Co., grain brokers of Minneapolis, have opened a branch office in Mankato, Minn., in the Meagher Building, with direct private wire to Minneapolis.

Philo B. Miles, of the firm of P. B. & C. C. Miles, Peoria, Ill., was recently appointed by Governor Tanner to the office of trustee of the asylum for the incurable insane to succeed E. S. Easton, resigned.

The Kemper Grain Company has been reincorporated at Kansas City, Mo., under an entirely new charter, with a capital stock of \$30,000. The incorporators are E. O. Bragg, W. A. Hinckman and D. F. Piazzek.

The J. W. Booth & Sons Commission Co., of St. Louis, Mo., organized in 1848, has been dissolved by agreement of the heirs, all the original members of the firm having died. Sieners & Chisholm succeed.

The Standard Grain & Hay Company has been incorporated at Toledo, Ohio, by Radford L. Burge, A. F. Files, Frederick L. Geddes, Henry C. Truesdell and William R. Worts. The company will erect elevators and carry on a general grain business. The capital stock is \$10,000.

The Charles M. Cox Company has been organized at Boston, Mass., with Charles M. Cox, president, and Frank J. Ludwig, treasurer. The new company will deal in grain and flour, and will continue the business which has been conducted so successfully for fourteen years by Charles M. Cox & Co.

The grain commission house of Ely, Harris & Co., Duluth, Minn., has been changed to Ely, Salyards & Co., incorporated, and continues the business at 410 Board of Trade Building. Colonel Ely was an early settler in North Dakota, afterward engaging in business in Duluth. Mr. Salyards was formerly a resident of Minot, N. D.



HE KNEW BETTER.

Farmer Hulltrooth—"This here paper sez that a man in Chicago unloaded 50,000 bushels of corn one day last week in Chicago. Now, Marier, you know as well as I do that there ain't enny man in the hull state could do that much work in one day."—Chicago News.

Late Patents

Issued on December 11, 1900.

Bag Tie.—Hans G. Hansen, Howard Lake, Minn. Filed March 31, 1900. No. 663,540. See cut.

Grain Drier.—John Cook, Grafton, N. D. Filed December 12, 1898. No. 663,418. See cut.

Gas Engine.—Hinsdale Smith, Springfield, Mass. Filed May 17, 1899. No. 663,475.

Issued on December 18, 1900.

Grain Elevator.—Ernest V. Johnson, Chicago, Ill. Filed October 16, 1899. No. 664,323. See cut.

Construction of Fireproof Grain Bins, Elevators or Other Buildings.—Ernest V. Johnson, Chicago. Filed May 31, 1900. No. 664,324. See cut.

Fireproof Grain Bin, Elevator, Etc.—Ernest V. Johnson, Chicago, Ill. Filed June 4, 1900. No. 664,325. See cut.

Portable Grain Elevator.—Henry H. Weber, Loretto, Ill. Filed October 25, 1900. No. 664,303. See cut.

Gas Engine.—Lewis H. Nash, South Norwalk, Conn. Filed March 1, 1897. No. 634,025.

Gasoline Engine—Clarence O. White, Minneapolis,

place. Filed October 2, 1899. No. 665,262. See cut.

Scoop or Cup-Shaped Elevator.—Heinrich A. Schmidt, Wurzen, Germany. Filed March 9, 1900. No. 665,273. See cut.

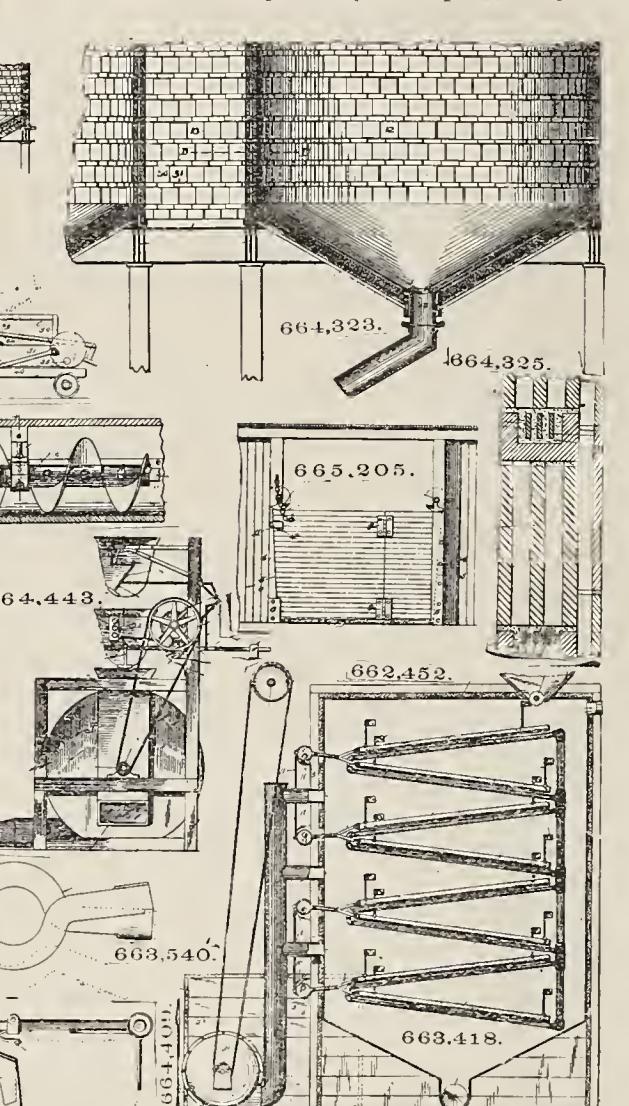
Issued on January 8, 1901.

Gas Engine.—Lucius H. Solomon, Chicago, Ill., assignor to the Webster Manufacturing Company, same place. Filed October 8, 1898. No. 665,665.

RULES PROPOSED AT NEW YORK TO GOVERN GRAIN SHIPMENTS.

A special committee of the New York Produce Exchange, appointed to find a remedy for the abuses that have crept into the grain trade, has made its report to President Barrows, says the Journal of Commerce. The report is accompanied by a request that he call a special meeting of the Exchange to have the committee incorporated to look after the regular grain trade of the Exchange. The report has not, at this writing, been acted upon by the grain trade section of the Exchange, but it was expected to come before that body for consideration during the week ending January 19.

The committee's report says the present system



Minn., assignor of one-half to Edw. J. Kimball, same place. Filed February 11, 1898. No. 664,200.

Issued on December 25, 1900.

Bag Holder.—Schuyler C. Hicks and Peter L. Hoffmann, New Carlisle, Ind. Filed May 12, 1900. No. 664,409. See cut.

Grain Door for Cars.—August T. Bramer, Wentworth, Mo., assignor of one-half to John W. Gareton, same place. Filed April 13, 1900. No. 664,716. See cut.

Grain Door.—Jos. E. Brown and Henry H. Winters, Victoria, Kan. Filed June 27, 1900. No. 664,621. See cut.

Lock for Grain Distributors.—Oscar H. Baker, Minneapolis, Minn. Filed April 13, 1900. No. 664,455. See cut.

Grain Weighing and Conveying Machine.—Oliver M. Stone, Gays, Ill. Filed December 30, 1899. No. 664,443. See cut.

Issued on January 1, 1901.

Grain Door for Cars.—James W. George and Jesse H. Scott, Dowus, Kan. Filed April 5, 1900. No. 665,205. See cut.

Grain Separator.—Hans C. Hanson, Strout, Minn. Filed June 6, 1900. No. 665,213. See cut.

Grain Elevator and Dump.—Scott Hartsook, Henry, Ill. Filed June 28, 1900. No. 665,216. See cut.

Screw Conveyor.—Stanton B. Peck, Chicago, Ill., assignor to the Link-Belt Machinery Company, same

In all sales of grain and feed in car lots for future delivery, a carload of oats shall be deemed to contain 1,500 bushels; of corn, 900 bushels; of wheat, 800 bushels; of rye, 800 bushels; of barley, 1,000 bushels; of mill feed in sacks, 40,000 pounds; of mill feed in bulk, 40,000 pounds.

At a separate meeting of the grain export trade the question of securing a modification of what is known as the St. Louis f. o. b. contract form was discussed. It was decided to send the following to the American Exporters' Association at St. Louis: There are three provisions in the contract which are subject to criticism and which it is hoped can be modified. The first is that calling for "five per cent, more or less, as per London contract." It is suggested that at buyer's option according to the custom of the loading port be added to this clause. The second objectionable clause is that unless otherwise specified buyer to give three days' notice of vessel's readiness to load. It was voted that this clause should be stricken out.

Another objection made at this meeting was that payment should be made by sellers at draft "with exchange." Objection was also made to the clause, that "buyers shall be held responsible for correctness of documents." This latter clause it was suggested should read as follows: "Sellers shall not be held responsible for correctness of bill of lading, providing it was made out according to buyers' instructions."

BARLEY AND MALT

The K. Schreier Brewing Company will build an elevator at Sheboygan, Wis. The plans are for a building 51 by 100 feet and 112 feet high. It will have a capacity of 300,000 bushels.

Coleman & Stevens have leased the old brewing plant of Jacob Winehard at Dayton, Wash., and will operate in future only the malt house, to make barley malt for Pacific Coast breweries. The capacity of the plant will be 6,000 pounds daily.

Ten thousand sacks of barley were shipped from the Lewiston Valley, Washington, to Milwaukee, Wis., December 29. The grain was collected by Joseph Alexander, a Lewiston merchant at Lewiston and Lapwai. A superior quality of brewing barley is grown in this valley.

The new elevator of the Minnesota Malting Company at Goodhue, Minn., was opened December 17, under the management of Charles Igoe, assisted by James Chalmers. The house has a capacity of 15,000 bushels, with four large bins from which to spout directly into cars. The elevator is equipped with dumping scales and a 5-horsepower Fairbanks, Morse & Co. Gasoline Engine. The engine and scales are in the same room as the office, for convenience in handling.

The stockholders of the Davenport Malt & Grain Company of Davenport, Iowa, held their annual meeting December 6. A proposition to increase the capital stock of the company from \$75,000 to \$180,000 was carried unanimously. The business of the company has increased so much of late that it has been found necessary to greatly enlarge the plant. The company owns half a block of land adjacent to its present location and will expend \$65,000 in improvements. Charles Pasche, one of the directors, said: "We shall enlarge the plant and modernize it in every particular. The latest processes and machinery will be employed."

The use of oats in the production of beer in the United Kingdom is said to be becoming quite common. Malted oats are described by the London Brewers' Gazette as forming an excellent grain for improving the palate fullness of all beers which are likely to be consumed quickly. The chief difference between barley and oats is in the cellulose and albuminoids. Oats contain more albuminous matter than barley, while the latter contains more cellulose than oats. It is the peculiarity and amount of the albuminoids of oats which cause this grain to impart such a rich palate fullness to beers, while the grain also produces a characteristic flavor of its own, which, unless too pronounced, meets with great favor.

The Wacker & Birk Brewing Company had a blaze in its malt elevator on the morning of December 12, which threatened for a time to result in serious disaster to the entire plant. Fire was discovered by the watchman while making his rounds at 1:30 o'clock a. m., on the cleaning floor of the barley elevator. He immediately sent in an alarm, and by hard work of the fire department the blaze was confined to the building in which it started. Considerable damage was done to the elevator and machinery. On investigation it was found that the fire was the result of spontaneous combustion of oily waste. The damage will amount to about \$2,500. The plant is located

on the southeast corner of Jefferson Street and Grand Avenue.

The P. H. Rice Malting Company of Chicago is constantly improving its plant. Since our last issue a Sturtevant Hot Air Heating Machine and Fan has been installed in the malt house, a new high-pressure pump has been placed in the engine room, and a 30-inch fan added to the equipment of the skinning kiln. Several minor improvements have been made to the elevator—bins enlarged, etc., and it now has a storage capacity of 250,000 bushels. This plant is advantageously situated on the line of the Chicago, Milwaukee & St. Paul Railway at Cragin, Ill. W. P. Rice is the superintendent and M. O. Boyle is foreman.

IMPORTS AND EXPORTS OF BARLEY AND MALT.

BARLEY.

Imports—	Bushels.	Value.
November, 1899	72,516	\$34,234
November, 1900	53,782	26,619
Eleven mos. ending Nov., 1899.	167,109	79,014
Eleven mos. ending Nov., 1900.	143,410	70,611

Exports—		
November, 1899	3,555,348	1,637,188
November, 1900	231,642	97,453
Eleven mos. ending Nov., 1899.	14,504,094	7,069,896
Eleven mos. ending Nov., 1900.	12,092,898	5,623,675

BARLEY AND MALT.

Imports—		
November, 1899	400	325
November, 1900	561	497
Eleven mos. ending Nov., 1899.	3,521	2,947
Eleven mos. ending Nov., 1900.	4,823	4,794

Exports—		
November, 1899	12,207	9,560
November, 1900	25,174	16,570
Eleven mos. ending Nov., 1899.	307,748	261,840
Eleven mos. ending Nov., 1900.	282,183	205,511

HAY

The value of the Iowa hay crop for 1900 is estimated at \$30,000,000.

Shiner & Anderson have opened a hay and feed store at Edmonds, Wash.

Howard Carter, formerly of Beverly, N. J., has opened a hay and feed store at Trenton, N. J.

A fire of incendiary origin caused a damage of \$1,500 to A. P. White's hay and feed store at 6328 W. Fortieth Street January 3.

Canadian hay continues to be in demand in Great Britain and South Africa. Canadian mixture is quoted at 80s. to 84s. in London.

A new hay market is to be established in Columbus, Ohio, and the old hay market, between Third and Fourth streets on Rich Street, will be abandoned.

Hay land in any of the western counties of Nebraska is in great demand, on account of the scarcity and high price of hay. Prices are expected to advance to \$20 an acre.

John W. Waterman, of the Planters' Compress Company of Boston, Mass., recently visited Parkersburg, W. Va., with a view to locating a branch hay compressing establishment in that city.

A sale of ten tons of hay for \$65 at Hutchinson, Minn., the buyer doing his own hauling, was reported recently. This is a high price for that locality, but \$10 a ton is expected before the winter is over.

J. D. Bacon and A. F. Turner of Grand Forks, N. D., have bought 1,000 tons of hay near Towner, N. D., for the Grand Forks market. They will also secure another 1,000 tons, which they will bale and ship to that city, thus relieving the threatened hay famine.

Nearly 500 tons of hay, the property of Isaac Magee, Eugene Looney and other sheep raisers of Eastern Oregon, was destroyed by fire recently. All indications point to incendiarism. An unreasoning hatred of sheep men prevails in that section.

The Babcock Grain Company's hay shed at Reed City, Mich., on the line of the Pere Marquette Railroad, was burned January 4. It contained about 300 tons of hay, and about one-third of this was destroyed, while the rest was damaged by smoke and water. The loss is covered by insurance.

An official of the United States Weather Bureau who recently investigated the spontaneous combustion of hay states that fermentation within moist hay may raise the temperature to 374 degrees Fahrenheit, at which point clover hay will ignite. The best preventive of spontaneous combustion is complete ventilation, by which the fermenting sub-

stances are kept cooled down below the point of ignition.

The hay dealers of Lyon County, Kan., have organized an association, with headquarters at Emporia, Kan. The object of the organization is general mutual benefit and the securing of better rates from railroads.

The hay crop of the Yakima Valley, Wash., for 1900 is estimated at fully 200,000 tons, for which the farmers have received \$500,000 in money or feeding value. Alfalfa, which has yielded from six to ten tons an acre, has sold for an average of \$4 a ton.

Charles Austin, a hay and grain dealer of Flora, Ill., has received a rush order from a representative of the British government for five carloads of hay. This makes a total of thirty-one carloads shipped from Flora to New Orleans, whence it goes direct to South Africa.

The Boston & Maine Railroad hay sheds in Charlestown, Mass., were burned January 5. Two sheds were destroyed and another shed damaged, and forty cars filled with hay were ruined. The total loss was \$113,000, covered by blanket insurance policies. This is the fourth fire of the kind within a year.

Ed Corrigan, the turfman, who is operating extensively on the English race tracks, is said to be about to ship 100 tons of California hay to England for his California-bred trotters. The freight charges alone on such a shipment would be \$3,000 if made by rail across the continent and thence by Atlantic steamship.

Scott & Magner, wholesale hay merchants of San Francisco, Cal., have received a gold medal awarded them at the Paris Exposition for fine hay. They made a unique exhibit of all grades and qualities of California-grown hay, pressed into miniature bales the size of bricks, which were built into a facsimile of the firm's San Francisco warehouse.

Wild hay is selling at \$8 a ton in Tama, Iowa. At Decorah, Iowa, a price of \$10 a ton for tame hay and \$6 a ton for oat straw is reported. In North Dakota hay has brought \$11 a ton at Fargo and the farmers are planning to raise oat hay or corn fodder next year as a substitute for hay. In Waterloo, Iowa, hay is selling at \$10 to \$12 a ton and is scarce at that. Reports of scarcity come from other sections also.

The standard hay bale is cylindrical in form and is 18 inches in diameter and 36 inches in length, says the New York Sun. Such a bale packed at the pressure under which it would be put up for domestic use would weigh about 200 pounds; as packed for export such a bale would contain about 275 pounds. There is put up for army use a bale of the same diameter, but only 18 inches in length, which contains approximately 140 pounds of hay. In the cylindrical bale a given quantity of hay is got into less than half the space that it would occupy in a square bale; and there are asserted for it other advantages, including freedom from mold, preservation of the sweetenss of the hay and greatly reduced combustibility. Thousands of tons of hay in cylindrical bales have been shipped to the American army in the Philippines, and large quantities of it have been used by the British army in South Africa.

REVIEW OF CHICAGO HAY MARKET.

The prices ruling for hay in the Chicago market during the past four weeks, according to the Daily Trade Bulletin, were as follows:

During the week ending December 15, sales of Choice Timothy ranged at \$13.50@14.50; No. 1, \$12.50@13.50; No. 2, \$12.00@12.50; No. 3, \$11.50; Not Graded, \$11.00@13.00; Choice Prairie, \$12.00@13.00; No. 1, \$9.00@9.50 for State, and \$11.50@12.00 for Nebraska and Kansas; No. 2, \$7.50@8.50 for State, and \$9.50@11.50 for Iowa and Kansas; No. 3, \$7.50@8.00; No. 4, \$6.50@7.50. Rye Straw sold at \$8.00@8.50, and Oat Straw at \$5.50@7.00. The receipts for the week were 4,571 tons, against 4,805 tons for the previous week. Shipments for the week were 66 tons, against 100 tons for the previous week. A quiet and steady market was experienced for both Timothy and Prairie Hay during the early part of the week. Later the arrivals became larger, especially of Prairie Hay, and the demand was light.

During the week ending December 22, sales of Choice Timothy ranged at \$12.50@13.50; No. 1, \$12.00@13.00; No. 2, \$11.00@12.00; Not Graded, \$10.00@12.00; Clover Mixed, \$10.50; Choice Prairie, \$11.00@12.50; No. 1, \$9.00@9.50 for State, and \$10.00@11.25 for Iowa and Kansas; No. 2, \$7.50@9.00; No. 3, \$7.50@8.00; No. 4, \$5.50. Rye Straw was in large supply and the demand was light. Prices declined \$1.00@1.50 per ton, sales ranged at \$6.50@8.50. Wheat Straw sold at \$6.00@7.00, and Oat Straw at \$6.00@6.75. The receipts for the week were 5,040 tons, against 4,571 tons for the previous week. Shipments for the week were 106 tons, against 66 tons for the previous week. The mar-

ket for both Timothy and Prairie Hay ruled dull. The demand was light, as buyers were purchasing sparingly, merely supplying the necessary wants. A weak feeling prevailed and prices declined \$0.50@1.00 per ton, and the market closed quiet at the reduction.

During the week ending January 5, sales of Choice Timothy ranged at \$13.00@14.50; No. 1, \$12.50@13.50; No. 2, \$11.50@12.50; No. 3, \$10.50@12.00; Not Graded, \$9.00@11.00; Clover Hay, \$10.00; Choice Prairie, \$11.00@12.00; No. 1, \$9.50@11.50; No. 2, \$8.50@10.75; No. 3, \$8.00; No. 4, \$6.50. Rye Straw sold at \$6.50@7.25. Wheat Straw \$5.75@6.00, and Oat Straw at \$5.50@6.00. The receipts for the week were 2,339 tons, against 3,982 tons for the previous week. Shipments for the week were 90 tons, against 192 tons for the previous week. A firm market was experienced for Timothy Hay during the week. The arrivals were small, and a good local demand existed, especially toward the close of the week. The market for Prairie Hay ruled rather quiet. The offerings were not large, but the demand was only fair. Prices exhibited no material change.

The EXCHANGES

The Boston Chamber of Commerce realized \$163.35 in premiums at its annual auction of choice of squares on the sample tables.

The Grain Committee of the Cleveland Chamber of Commerce are trying to arrange for the inspection of grain received at that point and shipped out.

Chicago Board of Trade memberships are now bringing about \$2,000 net to the seller. There are but few posted for transfer as compared with former years.

The membership assessment of the Duluth Board of Trade for 1901, as fixed by the directors, is \$60, or \$50 if paid within 30 days. This makes the net dues the same as at Chicago.

There is some talk among members of the Minneapolis Chamber of Commerce about changing the name of the organization to Board of Trade when they move into their new building. There is already an organization known as the Minneapolis Board of Trade, and it has been suggested that an exchange of names would be appropriate.

We are indebted to T. C. Friedlander, secretary, for a copy of the thirty-third annual report of the San Francisco Produce Exchange, covering the year ending July, 1900. The 84 pages of this book contain much useful information concerning the trade and commerce of the Pacific Coast. We note that the capacity of the regular warehouses of San Francisco is 86,000 tons of grain.

The annual election of the St. Louis Merchants' Exchange resulted in the choice of the following officers: President, Wm. T. Haarstick; first vice-president, Geo. J. Tansey; second vice-president, T. R. Ballard; directors, O. L. Whitelaw, Henry Woolbrinck, James S. McGehee, Christopher Hilke, S. A. Whitehead and P. M. Kiely. At the beginning of 1900 there were 1,975 members. Certificates of 35 deceased members were redeemed and 69 forfeited, leaving 1,871 members at the opening of the new year.

Attorney-General W. B. Douglass of Minnesota has rendered an opinion in the dispute between Minneapolis and Duluth in regard to the double inspection of grain. He holds that for grain shipped to Duluth from Minneapolis the judgment of the Minneapolis Board of Appeals is final, and that the Duluth authorities cannot reinspect such grain. In case of an inspection at Minneapolis and a reinspection at Duluth, it is the duty of the Railroad and Warehouse Commission to direct a return of the fees paid.

William S. Warren of the firm of Hulburd, Warren & Co., was re-elected president of the Chicago Board of Trade at the annual election held January 7. There was no opposition ticket in the field this year. The balance of the ticket was as follows: Second vice-president, Edward S. Adams; directors, Frederick W. Smith, Thomas C. Edwards, William H. Chadwick, John L. Fyffe, Harry B. Slaughter, Committee on Appeals—Frederick D. Austin, Frank A. Crittenden, Charles L. Dougherty, Alonzo B. Lord, J. H. Rawleigh, Committee on Arbitration—William G. Sickel, Willard L. Cobb, Philip H. Schiffman, Harry B. Shaw, Frank G. Badger. An amendment to the rule providing for the admission of new members was also adopted cutting down the number of negative votes to reject an applicant from 6 to 3.

Duluth stands in fifth place as contributor to the revenue of the telegraph companies, New York, Chicago, Minneapolis and St. Louis alone leading her in the order named.

TRANSPORTATION

The Chicago, Rock Island & Pacific Railway has let three contracts for grading 50-mile sections of the new line from Liberal, Tex.

A new station is to be established on the Southern Indiana Railroad at a point twelve miles southeast of Terre Haute. It will be called Pierson.

The new branch of the Chicago & Eastern Illinois Railroad through Massac County, Illinois, to the Ohio River, at Joppa, has just been completed.

The Des Moines & Northern Iowa Railroad is now being located between Boone and Des Moines, Iowa. Construction work will be started early next spring.

The railway between Port Arthur and Winnipeg, Man., now being built by Mackenzie & Mann, will be completed next fall. This road, in connection with the Manitoba & Northwestern, a line also owned by Mackenzie & Mann, will give a through route from Lake Superior to the Saskatchewan River.

The third week in December was a record-breaker for export business from the port of Newport News, Va. Computing flour as wheat, the shipments were 959,071 bushels. The steamship *Rapidan*, which made her first trip out under her new charter, was a very material factor in the increase.

President Hays, of the Southern Pacific Railroad, is quoted as saying that there will be no change in the policy of the road as regards making Galveston the road's eastern ocean terminus. Over \$1,000,000 have been invested by the road in wharves at Galveston, and the port will not be abandoned.

The Choctaw, Oklahoma & Gulf Railroad will extend its line 85 miles westward from Weatherford, its present western terminus, and also will build a branch road 120 miles long from a point near Hartshorne, in a southwesterly direction, to a point on the Santa Fe system near the southern boundary of the Indian Territory.

Grain freights from points along the line of the Mobile & Ohio Railroad have been reduced. Hereafter the rates on grain will be 18 cents from St. Louis, and 14 cents from Cairo, to all junction points in Mississippi, as far south as Meridian. The rate on flour is reduced to 46 cents per barrel from East St. Louis to all points as far south as Meridian.

The best rate for the season for grain shipped from San Francisco to Great Britain is 45s (\$10.80) per ton, while a rate has been made recently of 38s 9d (\$9.30). The top rate from Portland for the season is 52s 6d (\$12.60). The Halewood refused that rate, and later accepted 46s 3d. Two ships have been taken for January loading from Portland at 41s 9d and 42s respectively.

Complaints of shortage of cars come from many sections. This difficulty has especially affected deliveries of corn on contract, and threatens to cause no end of complications. The cross lake boat lines on Lake Michigan have been compelled to refuse all grain freight because of shortage of cars on the east side of the lake. The warehouses on both sides of the lake are filled with flour and other grain products.

The proposed boat line to be built by F. H. Peavey is said by the Duluth papers to be intended for general carrying purposes and as a profitable investment for surplus funds, rather than to carry the Peavey grain exclusively. It is explained that the Peavey company, though one of the largest receivers of wheat at Duluth, is not a heavy shipper, but sells largely to other shippers, who control the carrying of the grain.

Chicago's lake tonnage during 1900 surpassed all previous records. During the eleven months to December 1 the figures thus far completed show that 7,099 vessels entered the port. The year was a record-breaker on the lakes at other ports as well. Buffalo comes next to Chicago, with 3,684 entrances; Cleveland, 3,343; Milwaukee, 3,057. The grain shipment on the lakes was large, Chicago leading with 76,500,000 bushels.

Charters for winter storage of oats on vessels in Chicago, on contract to deliver to Lake Erie ports in the spring, have been made in considerable numbers at 2½ cents a bushel. This is considered better than 3 cents on corn. The fact that no corn has been chartered for winter storage is due to the uncured condition in which most of the corn is received at Chicago, which makes it unfit to be placed in vessels at present.

The Santa Fe Railway has given notice to the Kansas City Board of Trade that it will hereafter cease to absorb the switching charges on grain and hay consigned locally to Kansas City from local or competitive points. This action will probably be followed by the other Kansas City lines.

Members of the Board of Trade and the Hay Dealers' Association are aroused over the matter, as they believe it will result in a charge of \$3 a car to the commission men.

The Northwestern, the first of a series of four lake and ocean going steamships, was launched at the yards of the Chicago Ship Building Company at South Chicago December 29. The new boat is 256 feet long and of 42 feet beam and has a freight capacity of 3,200 tons. All four of the ships will be built on the same lines and will make regular trips between Chicago and European ports, provided return cargoes can be secured.

A survey of French River from its outlet on the Georgian Bay, as far as North Bay on the Canadian Pacific Railway, has been ordered by the Canadian Minister of Public Works. It is believed that the river can be improved without too great expense, so that all the wheat of Western Canada which is now delivered at Port Arthur in large part to American vessels and carried by them to Buffalo may be transported direct to Montreal.

The wheat blockade at Tacoma, Wash., ended about the middle of December. For two months previous to that time every warehouse and elevator was overflowing, and grain cars bound for Tacoma filled every sidetrack between that city and Walla Walla. The arrival and departure of several grain ships, and the opening of the last of the new warehouses built by the Northern Pacific Railway, permitted the unloading of cars in the local yards and for forty miles up the main line. The Northern Pacific Railroad will build a warehouse at Lewiston, Idaho, to operate in connection with a steamer on the Snake River, which will pick up all the wheat it can get in that territory. The railroad will carry the wheat from Lewiston to Tacoma. The Northern Pacific has also made several extensions into Idaho, and it is predicted that fully ten million bushels of wheat will be diverted to Tacoma by these new traffic facilities. The proposed plan of carrying wheat down the Columbia River to Portland in barges, via a portage road at The Dalles, is said to have been abandoned.

THE GRAIN TRADE IN CHINA.

The Chinese grain dealers are adepts at all the tricks of the trade. As it is very difficult in that country to transport grain except on the waterways, it is a comparatively easy matter for the grain guilds, or the land owners who collect grain rents, to push up the price in seasons of threatened scarcity or in localities not within easy reach of the rivers. To prevent this mischief the government has public granaries in many official centers, where the mandarin in charge stores rice, and when merchants and rich landed proprietors seek to raise the price the public granaries are opened and rice is sold in limited quantities to each purchaser at a reasonable rate, thus compelling the dealers to sell cheaper. This is the theory, and it looks well on paper. It is in accordance with the Confucian idea of the paternal relation of government and people, which the wily mandarin talks of so smoothly, but practices so seldom. However, the difficulty of securing honest management and the smallness of the quantities stored compared with the remarkable density of population make these public granaries of little real service for regulating the price of grain in times of scarcity.

Miscellaneous Notices

[Copy for notices under this head should reach us by the 12th of the month to insure insertion in the issue for that month.]

WANTED.

Elevator men to read H. L. Day's advertisement on the back cover of this paper.

NOTICE

If you want to reduce the amount of dust in your elevator and improve your fire risk, write to

H. L. DAY, Minneapolis, Minn.

REPRESENTATIVES WANTED.

Millwrights, machinery dealers and manufacturers' agents wanted to represent us in their territory, on commission, for the sale of elevating, conveying and power transmitting machinery, mill and elevator supplies. Address

WELLER MFG. CO., 118 and 120 North Ave., Chicago, Ill.

WANTED.

A firm at Antwerp, Belgium, desires connections with exporters of grain at New York, New Orleans and St. Louis. Address

NO. 53, care Dun's Review, New York.

ELEVATOR WANTED.

Wanted, to buy an elevator; good repair; first-class grain country: Nebraska, Iowa or Kansas. State lowest cash or time price. Address

BOX 361, Lincoln, Neb.

A POINTER.

If you are looking for a purchaser for your property, better follow the advice given in the letter below and insert an advertisement in these columns:

St. Louis, Mo., Aug. 15, 1900.

Mr. J. C. Wallace, Lebanon, Mo.

Dear Sir:—We are in receipt of your valued favor of the 14th inst. and contents carefully noted. If we, by any possibility, chance to learn of a party that is looking for a good grain opening with elevator attachment, to be had at reasonable figures, we will most certainly recommend your plant very highly. At times there are parties who are changing their locations, and we think it would be good policy to insert a little advertisement that would cost you a trifle, in the "American Elevator and Grain Trade," published monthly in Chicago by Mitchell Bros. Co. We have at times advertised in the paper; it has a wide circulation and we think if you would thus cast your grain on the Chicago waters it might be returned to you in the shape of a purchaser of your elevator. We mail you sample of the publication so you can see what it is like. With kind regards, we remain

Yours very truly,

J. W. BOOTH & SONS CO. CO.

For Sale

[Copy for notices under this head should reach us by the 12th of the month to insure insertion in the issue for that month.]

OAT CLIPPERS.

For sale, two No. 5 Eureka Oat Clippers, second-hand. Address

OAT CLIPPERS, care Box 10, "American Elevator and Grain Trade," Chicago, Ill.

FOR SALE.

Day's Dust Collecting System. It will reduce your fire risk. Write

H. L. DAY, Minneapolis, Minn.

WAREHOUSE SEPARATOR.

For sale, one No. 4 Monitor Improved Warehouse Separator. Good as new.

CRABBS & REYNOLDS, Crawfordsville, Ind.

FOR SALE.

We have a large stock of boilers, engines, steam pumps and pulleys for sale. Write for specifications and prices to

PHILIP SMITH, Sidney, Ohio.

ENGINE FOR SALE.

One good, substantial 9x14 Atlas style engine, in good repair, with all trimmings. Just the thing for mill or elevator. Price, \$200. Address

C. C. PITRAT, 417 S. Third St., Lafayette, Ind.

FOR SALE.

Good 10-horsepower high-speed skid engine. Splendid elevator or small mill engine.

One 30-inch under-runner burr, complete, ready for work, \$30. Write

HURD & ENYART, Royal Center, Ind.

INDIANA ELEVATOR.

For sale, new elevator, with latest machinery, and grist mill in connection. Is enjoying good trade in custom grinding and buying lots of grain, cordwood, hay, straw and seeds. Good point for live stock shipping. Address

E. M. SMALL, Yeddo, Ind.

FOR SALE CHEAP.

A large number of double stands 6x18, 6x20, 7x16, 7x20, 9x18, 9x24 and 9x30 rolls.

Two Nordyke & Marmon 9x18 and 9x24 two-pair high feed rolls.

Two Willford No. 1 Feed Rolls.

A number of gasoline and steam engines of good make; all sizes.

Feed rolls from \$60 up and all good ones. Also shafting, belting, pulleys, etc., at a big discount. Also grain cleaning machinery.

JACKSON MFG. CO., Minneapolis, Minn.

FOR SALE.

A grain warehouse, coal and lumber yard, railroad siding, together with about nine acres of arable land. Frame dwelling house, heated with steam. Stables, potato and fertilizer houses; two wagon scales. Warehouse is equipped with a new 40-h. p. boiler and 25-h. p. engine, chopping mill, grain separator, oat clipper, corn sheller. Grain is loaded into cars with elevators. Situated at Kempton, Berks Co., Pa., on a branch of the P. & R. Ry. For further information address MAHLON C. DIETRICH, Kempton, Pa.

AN OHIO ELEVATOR.

For sale, a general grain elevator, capacity 15,000 bushels. Good buildings; metal roof and three sides metal covered. Modern machinery; combined warehouse sheller and cleaner; capacity, 150 bushels per hour. Thirty horsepower engine, 35 horsepower boiler, located in separate power house. Constant Patent Wagon Dump, scale and office in connection. Load cars direct from elevator. Located on Erie Railroad, in an elegant grain growing country. Price, \$3,000 net cash. Investigation invited. Reason for selling, physical infirmities. In present business 30 years. Address I. K. HOSTETTER, Osborn, Greene Co., Ohio.

E. R. Ulrich & Sons,
SHIPPERS OF WESTERN GRAIN,

Especially High Grade White and Yellow Corn,
Also Mixed and White Oats.

Elevators through Central Illinois on Wabash Ry., Chicago & Alton Ry., C. P. & St. L. Ry., and St. L., C. & St. P. Ry.

Main Office, 6th Floor, Illinois National Bank Building,
SPRINGFIELD, ILLINOIS.

Write for prices delivered. No Wheat For Sale.

E. W. WAGNER.
Consign Your Grain.

We make good sales.

We make prompt returns.

We make our customers money.
707, 708 and 709 Rialto Building, CHICAGO.

C. H. Matthiessen, President. S. T. Butler, Vice-President.
Chas. L. Glass, Treas. and Sec'y.

The Glucose Sugar Refining Company,

FACTORIES: GENERAL OFFICES:
Chicago } Ill. Marshalltown } The Rookery,
Peoria } Ill. Davenport } CHICAGO, ILL.
Rockford }

The world's largest consumers of Corn. Daily consumption, 100,000 bushels. We are always in the market for corn, and confine our bids to regular grain dealers. Write or wire us when you wish to sell.

JOS. P. GRIFFIN, Mgr. Grain Dept.

To POULTRY RAISERS.

The Complete Poultry Manual is a neat little work which is well worth reading by those interested in poultry, or by boys or girls who want to turn an honest penny. The price is only 25 cents. Sent postpaid on receipt of price. Address

MITCHELL BROS. CO.,

315 Dearborn Street, Chicago, Ill.

GRAIN BAGS—BURLAPS.

All kinds of Bags, New and Second-Hand.
ORDERS FILLED PROMPTLY.

W. J. Johnston, 182 Jackson St., Chicago.

As Agent for Buyers and Exporters, I supervise shipments and certify same. None but thorough experts employed.

SETH CATLIN,
GRAIN EXAMINER AND SAMPLER.

Office, 423 Rialto Building, CHICAGO.

I have had twenty years' experience as a Seaboard Inspector with the New York Produce Exchange Grain Inspection Department. Correspondence solicited.

ROOFING AND SIDING.

P. & B. RUBEROID ROOFING,

P. & B. INSULATING PAPERS,
P. & B. BUILDING PAPERS.

Do not use any imitations. See that the Brand P. & B. is on the wrappers, and use no other.

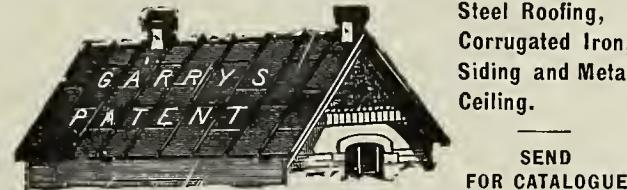
WRITE FOR SAMPLES AND PRICES.

GATE CITY ROOFING AND METAL CO.,
416 Delaware Street, KANSAS CITY, U. S. A.

The Garry Iron and Steel Roofing Co.,

168 MERWIN STREET, CLEVELAND, O.,

MANUFACTURES



Steel Roofing,
Corrugated Iron,
Siding and Metal
Ceiling.

SEND
FOR CATALOGUE

"ZANZIBAR" ELEVATOR PAINT.

ANTI-RUST. SPARK, WATER, WEATHER } PROOF. GUARANTEED
FIVE YEARS.

Write for Prices and Circulars.

GARFIELD OIL CO., Cleveland, Ohio.

WE manufacture all gauges of corrugated iron, either painted or galvanized. We make Patent Cap Roofing, Roll Cap Roofing, "V" Crimped Roofing, Metal Ceilings, etc., etc. We make a specialty of Corrugated Iron and Metal Roofing for Grain Elevators,

And take contracts either for material alone or job completed. We have done a large amount of this work in the past three years, in fact, we are the largest manufacturers of this material in the Western States. Write us for prices. We can save you money.

SYKES STEEL ROOFING CO.,
611 So. Morgan Street, - - - - CHICAGO.
Eastern Works: NILES, OHIO.

COMMISSION CARDS.

[We will not knowingly publish the advertisement of a bucketshop keeper or irresponsible dealer.]

HENRY HEMMELGARN. Established 1861. PHILIP H. SCHIFFLIN

H. HEMMELGARN & CO.,

COMMISSION MERCHANTS,

GRAIN, SEEDS AND PROVISIONS,

ROOMS 317, 318 AND 319 RIALTO BUILDING,
Adjoining Board of Trade. CHICAGO, ILL.

Consignments Solicited. Correspondence Invited.

COMMISSION CARDS.

ESTABLISHED 1846.

C. A. KING & CO.

GRAIN and CLOVER SEED,

TOLEDO, OHIO.

MEMBERS { Chicago Board of Trade.
Toledo Produce Exchange.

SPECIAL MARKET AND CROP
REPORTS FREE,

BE FRIENDLY. WRITE OCCASIONALLY.

ESTABLISHED 1876.

W. A. RUNDELL & CO.,
GRAIN AND SEEDS,

SPOT AND FUTURES.

CONSIGNMENTS and FUTURES given special attention.

Ask for our "Daily Market Letter and Track Bids."
Correspondence requested.

33 Produce Exchange, - - - TOLEDO, OHIO.

SMITH-GAMBRILL CO.,

Chamber of Commerce, Baltimore, Md.,

GRAIN COMMISSION
RECEIVERS AND EXPORTERS.

RICHARD GAMBRILL, Western Manager, Chicago, Ill.

McCORD & KELLEY,

TRACK BUYERS AND SHIPPERS OF

Grain and Hay

For Eastern and Southern Interior
Trade, and for Seaboard Delivery.

Gen'l Office, 358 N. High St., COLUMBUS, OHIO.

CHAMBER OF COMMERCE,
DETROIT, MICH.

LIBRARY BLOCK,
DECATUR, ILL.

C. A. BURKS & CO.,

GRAIN AND MILL FEED.

WRITE, WIRE OR 'PHONE FOR PRICES.

J. F. ZAHM. F. W. JAEGER. F. MAYER.

ESTABLISHED 1879.

J. F. ZAHM & CO.,

GRAIN and SEEDS,

TOLEDO, OHIO.

MEMBERS: { Toledo Produce Exchange,
Chicago Board of Trade,
New York Produce Exchange.

Handling consignments and filling orders for
futures OUR SPECIALTY.

SEND FOR OUR RED LETTER.

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PRIVATE WIRES.

ARTHUR R. JONES & CO.,
Members Chicago Board of Trade

GRAIN STOCKS
PROVISIONS & BONDS

226-228 La Salle Street, - CHICAGO.

THEO. McGINNIS,
Commission Merchant,
GRAIN, HAY AND FEEDSTUFFS.

Office, 524 Poydras St., New Orleans, La.
References: The Commercial Agencies, Teutonia Bank.
Consignments solicited.

ESTABLISHED 1870.

W. R. MUMFORD CO.,
GRAIN, HAY, SEEDS, MILL FEED.

GENERAL OFFICE: 528-532 Rialto Bldg., CHICAGO, ILL.
Branch Offices: MINNEAPOLIS, MILWAUKEE, ST. LOUIS,
PEORIA, BUFFALO.

CAREFUL ATTENTION GIVEN YOUR CASH AND FUTURE BUSINESS.

Grain Dealers,

WE WANT YOUR BUSINESS.

If you appreciate Honest Work, Good Treatment and
Prompt Returns consign your grain to us.

CALUMET GRAIN & ELEVATOR CO.,
CHICAGO.

ARTHUR R. SAWERS in charge of receiving business.

Thos. H. Botts & Co.

FLOUR, GRAIN AND GENERAL
COMMISSION MERCHANTS.....

214 Spears Wharf, 213 Patterson Street,
Baltimore, Md.

REFERENCES—First National Bank, C. Morton Stewart & Co.,
I. M. Parr & Son, BALTIMORE. Dunlop Mills, Warner, Moore
& Co., RICHMOND, VA.

WARREN & CO.,
...GRAIN...

COMMISSION MERCHANTS,

Rooms 7 and 9 Chamber of Commerce,
PEORIA, - ILL.

E. W. BAILEY & CO.,
Commission Merchants,
GRAIN, SEEDS AND
PROVISIONS
72 Board of Trade, CHICAGO.

M. F. BARINGER
...SUCCESSOR TO....
J. R. TOMLINSON & CO.
...GRAIN AND MILL FEED...
416-418 Bourse Bldg., Philadelphia, Pa.

Correspondence with millers and grain dealers solicited. Sight
draft with bills of lading attached honored on all shipments.

ARMOUR & CO.,
205 LA SALLE STREET,
CHICAGO.
GRAIN BUYERS AND DEALERS.

COMMISSION CARDS.

ESTABLISHED 1865.

L. EVERINGHAM & CO.,
Commission Merchants.

ORDERS AND CONSIGNMENTS SOLICITED.

GRAIN AND SEEDS OF ALL KINDS

For Cash and Future Delivery.

Suite 80 Board of Trade, - - CHICAGO, ILL

RUMSEY, LIGHTNER & CO.,
COMMISSION MERCHANTS

Grain, Feed, Provisions, Seeds.

Main Office: 226 LaSalle St.,

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Branch Offices:
MINNEAPOLIS,
MILWAUKEE,
PEORIA.

Make all drafts on Main Office.

Consign your grain and send
your orders to

JOHN DUNNETT & CO.,
COMMISSION MERCHANTS,

Room 33 Chamber of Commerce, Minneapolis, Minn.

LEMAN BARTLETT.

O. Z. BARTLETT

L. Bartlett & Son,

GRAIN AND PRODUCE
COMMISSION MERCHANTS.

BARLEY A SPECIALTY.

Room 23 Chamber of Commerce Bldg
Milwaukee, Wis.

Careful attention given to orders from Brewers, Maltsters and
Millers.

MILMINE, BODMAN & CO.,

GRAIN COMMISSION MERCHANTS,
RECEIVERS, SHIPPERS, EXPORTERS.

Grain and Seeds,

5 Board of Trade,
CHICAGO.

401 Produce Exchange,
NEW YORK.

Members Chicago Board of Trade.

JAMES P. SMITH & CO.,

GRAIN MERCHANTS,

417-418 Rialto Building, CHICAGO.

Consignments Solicited.

J. H. WARE. E. F. LELAND.

Consign your grain and seeds and send your
Board of Trade orders to

WARE & LELAND,

200-210 Rialto Bldg., Chicago.

GRAIN PROVISIONS,
STOCKS AND COTTON.

Write for our Daily Market Letter.

Your interests are our interests.

Special attention given to cash
grain shipments.

COMMISSION CARDS.

ROSENBAUM BROS.

COMMISSION
MERCHANTS,

RECEIVERS
AND SHIPPERS.

Grain and Seeds.

Room 77 Board of Trade Bldg.,

CHICAGO.

DANIEL McCAFFREY'S SONS,

Leading Hay Dealers,
PITTSBURG, PA.

Consignments solicited. Reference: Duquesne National Bank.

ESTABLISHED 1867.

IF YOU WANT Full and fresh information as to
grain freights, east or west;
accurate and interesting news as to grain markets or finance;
or money accommodation in an
emergency..... YOU WILL FIND NONE

On the back of a postal card. For all these things; for attention
to Inspections, for smallest discounts on off grades; for best
ultimate net results; and for protection of your interests in every
way, try

POPE & ECKHARDT CO...CHICAGO
and you will not be disappointed.

E. L. ROGERS & CO.,

ESTABLISHED
1863.

COMMISSION
MERCHANTS,

RECEIVERS AND EXPORTERS

GRAIN, Flour, Seed, Hay and Straw,
358 Bourse Building, PHILADELPHIA, PA.

Liberal advances made on consignments. Market reports furnished
gratuitously on application. Correspondence solicited.

References: Corn Exchange National Bank.
Manufacturers National Bank.
Merchants National Bank.

L. F. Miller & Sons,

RECEIVERS AND SHIPPERS OF

GRAIN, FEED, SEEDS, HAY, ETC.

OFFICE 2933 N. BROAD ST., PHILADELPHIA, PA.

CONSIGNMENTS SOLICITED.

Special attention given to the handling of Corn and Oats.

References: Manufacturers' National Bank, Philadelphia, Pa.
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Consignments Solicited.

MILLING WHEAT A SPECIALTY.

GEO. N. REINHARDT & CO.

MELROSE STATION, NEW YORK CITY.

Geo. N. Reinhardt & Co.
DEALERS IN
HAY, STRAW & GRAIN.



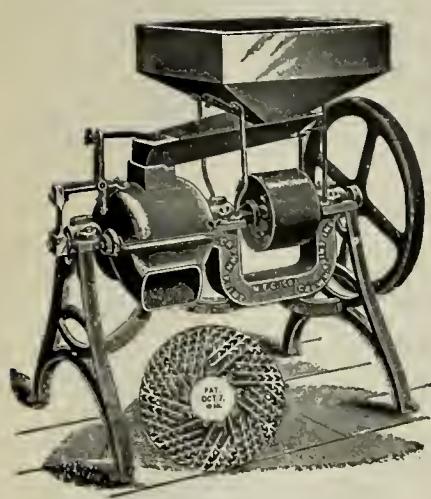
We sell on Commission and buy direct,

HAY, GRAIN AND FEED.

Storage capacity 8,000 bales, 30,000 bushels
Let us know what you have to offer.

THE CROWN POINT GRINDING MILL.

The Best on Earth



For Fine Grinding and Easy Running.

They are all equipped with our Patent Self-Sharpening Burrs, which were awarded First Prize and Medal at the World's Columbian Exposition

Do not dull when running together.

Grinds OATS perfectly fine and all grain, damp and dry.

No heating of grain; no lost motion.

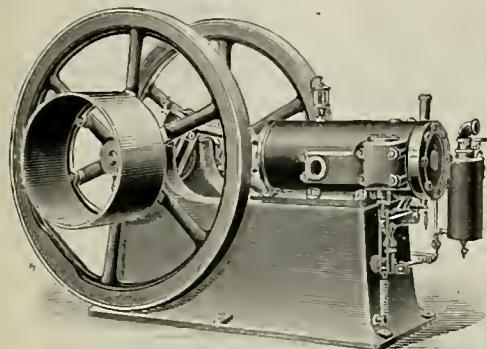
You cannot afford to be without one.

Send for Descriptive Circulars.

CROWN POINT MFG. CO., CROWN POINT, IND.

LEWIS GAS ENGINE.

Gold Medal, World's Fair, 1893.
Two Gold Medals, Omaha, 1899.



EASY TO START. ALWAYS RELIABLE.

Thousands of Testimonials.

Adapted to all purposes where power is required.

J. THOMPSON & SONS MFG. CO.
Sole Makers, BELOIT, WIS.

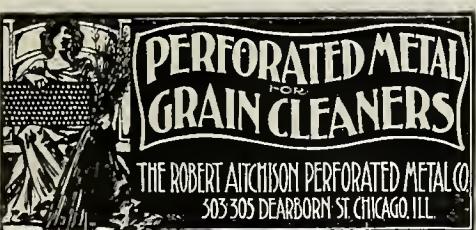


Dust Protector.

The "Perfection" with Automatic Valve compels perfect protection and ventilation. Improved and Enlarged. Thousands in use. Nickel plated protector postpaid, \$1.50. Cir. Free. Agents wanted.

**H. S. COVER,
SOUTH BEND, IND.**

Do you want less dust in your elevator? Write to H. L. DAY, Minneapolis, Minn.

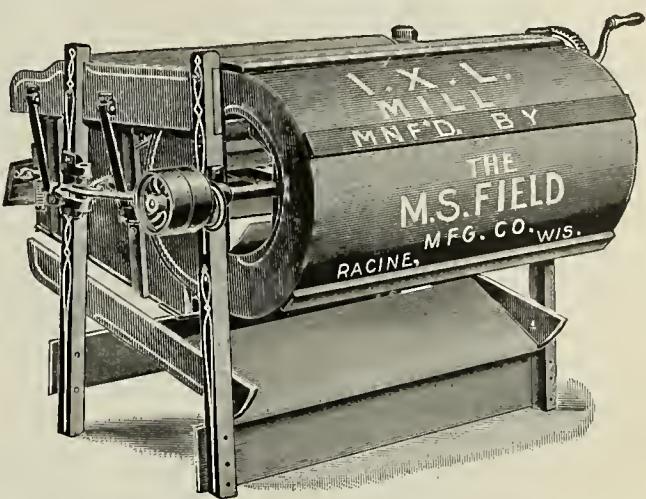


The I. X.L. Warehouse Mill and Grain Cleaner

IS A
STRONG
AND
DURABLE
MACHINE.

Easy Running,
Good Cleaner with a
Large Capacity.

Manufactured
by the



M. S. FIELD MFG. CO., Racine, Wis.

BRAIN TOOLS

Save time and hard work and insure accurate results.

THE GRAINMAN'S ACTUARY

Shows at a glance the cost of bushels and fractional parts of bushels for any amount up to 50,000 bushels. Contains 214 well printed and well bound pages. Sent postpaid on receipt of price, \$1.00.

No miller or grain dealer can afford to be without it. Address

MITCHELL BROS. CO., 315 Dearborn Street, Chicago.

Day's Dust Collectors will improve your fire risk. Write to
H. L. DAY, Minneapolis, Minn.

\$2.50 { The American Miller, \$2.00,
The American Elevator & Grain Trade, \$1.00, } **\$2.50**

Two Great Papers Every Month

For one year can be had for almost the price of one, by sending the \$2.50 at one time. The interests of the milling and grain handling trades are so inseparable that you need both these "silent partners" in your business.

They will keep you fully informed of the progress and prospects of your line of business in all parts of the world. They record the latest legal decisions and developments affecting your business.



ESTABLISHED IN 1873.

Published on the 1st day of every month, at \$2 per year. Each number contains 80 pages and upward.

It is the great illustrated business magazine of the flour and cereal milling industry.

It is not a daily market report, but covers broadly every phase of the business from the production of the grain to the consumption of the manufactured products.

The most complete exponent of milling mechanics in the world. Water power, steam engineering and all milling topics are handled by the ablest writers in their respective fields.

\$2.50 pays for both papers to one address for one year.

Mitchell Bros. Co., Publishers, 315 Dearborn Street, Chicago, Ill.



ESTABLISHED IN 1882.

Published on the 15th of every month at \$1.00 per year. Forty-eight pages and upward in every number.

It covers broadly and completely the business of buying, selling and handling grain. It illustrates and describes the latest storage, handling and transportation achievements. It deals broadly and vigorously with all questions and usages affecting the welfare of the trade. It enters into the details of things sufficiently to be helpful to even the smallest dealer in his daily business.

It will keep you elbow to elbow with your fellow dealers in all association and convention work for betterment of the trade.

JAMES STEWART & CO.

ENGINEERS
AND
CONTRACTORS.

Structural Steel Fireproof
 Quick-Working Upright
 Combination Quick-Working Storage
 Wood and Steel Tank

GRAIN ELEVATORS.

We have the most extensive Contractors' Plant in the country, thoroughly equipped with compressed air, electricity and steam for doing the following classes of work:

OFFICE AND RAILWAY BUILDINGS, MANUFACTURING PLANTS, STRUCTURAL STEEL, HEAVY MASONRY, DREDGING, DOCK WORK, ETC.

EASTERN OFFICE:

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GENERAL OFFICES:

LINCOLN TRUST BLDG., ST. LOUIS.

SOUTHERN OFFICE:

Godchaux Building, New Orleans, La.

G. M. SLOAN,
GRAIN ELEVATOR CONTRACTOR.

*Plans and Specifications on Short Notice.
Grain Handling Machinery. . . .*

443 South Robey Street,

CHICAGO, ILL.

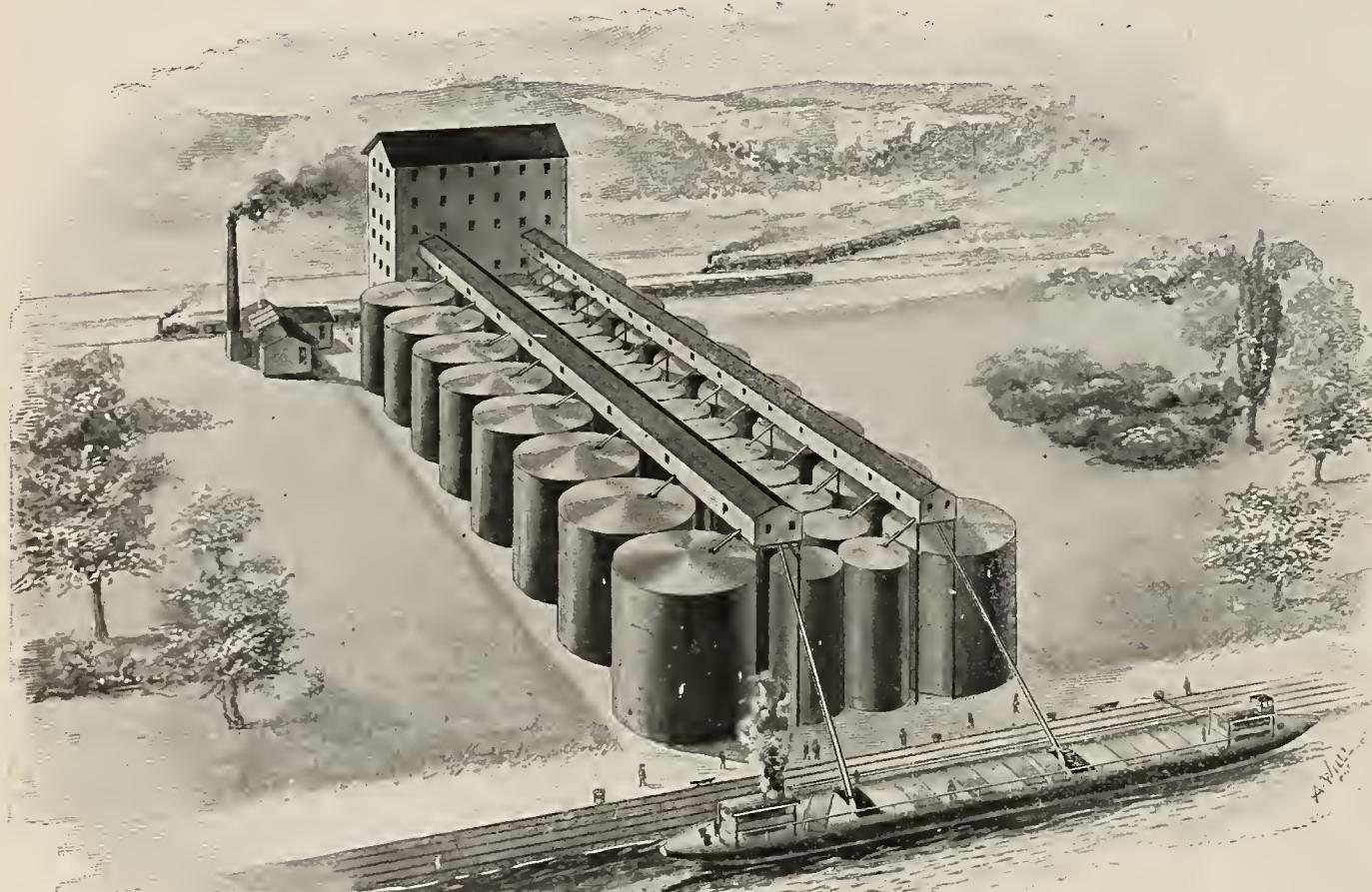
Macdonald Engineering Company,
CONTRACTING ENGINEERS,

Designers and Builders of Wood and Steel

GRAIN ELEVATORS,
Of any capacity.

1454, 1455 and 1456 MONADNOCK BLOCK, CHICAGO, ILL.

STEEL STORAGE & ELEVATOR CONS. CO.



CANADIAN PACIFIC RAILWAY CO.'S STEEL ELEVATOR, FORT WILLIAM, CANADA, 1,500,000 BUSHELS.

FIRST IN THE FIELD,
ALWAYS IN THE LEAD.

WE DESIGN AND BUILD COMPLETE

FIREPROOF STEEL
ELEVATORS

TO MEET ALL REQUIREMENTS.

INVESTIGATE OUR

PNEUMATIC CONVEYING
SYSTEM.

GENERAL OFFICES:

302-308 GUARANTY BUILDING,
BUFFALO, N. Y., U. S. A.

WM. GRAVER TANK WORKS,

Manufacturers and Builders of

STEEL STORAGE TANKS
AND
STEEL ELEVATORS.

We Build Storage for Any Commodity of
Any Capacity.

GENERAL OFFICES:

205-206 Plymouth Building, Chicago.



GEO. M. MOULTON & CO.,

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SUCCESSORS TO J. T. MOULTON & SON,

THE PIONEERS IN

GRAIN ELEVATOR CONSTRUCTION.

Architects and
Builders of
Frame and Steel
Grain Elevators.

THE BARNETT & RECORD COMPANY

DESIGNERS AND BUILDERS OF

Grain Elevators, Mills, Breweries and Malt Houses.

STEEL ELEVATORS A SPECIALTY.

We also contract to build complete all kinds of heavy structures, such as Docks, Packing Houses, Public Buildings, Stock Yards, Etc., Etc.



A Few Elevators Built by Us. Bu. capacity.
Portland El. Co., Portland, Me. 1,000,000
Maple Leaf Elevator, Kansas City, Kan. 1,000,000
Burlington Elevator, St. Louis. 1,300,000
Interstate Elevator Co., Minneapolis. 1,000,000
Northern Grain Co., Manitowoc, Wis. 500,000
W. W. Cargill, Green Bay, Wis. 500,000
Vigo Elevator Terre Haute, Ind. 500,000
Belt Line Elevator Co., Superior, Wis. 2,500,000
Superior Terminal El. Co., Superior, Wis. 2,500,000
F. H. Peavey & Co., Minneapolis No. 1. 1,750,000
F. H. Peavey & Co., Minneapolis No. 2. 500,000
Atlantic Elevator Co., Minneapolis. 600,000
Empire Elevator Co., Minneapolis No. 1. 600,000
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Have proven superior to all others built this season. They contain more new features than any others now being built. Write us for special design.

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HAY STATE MILLING CO., Hendricks, Minn.	25,000
BAY STATE MILLING CO., Astoria, S. D.	25,000
SPALDING BROS., Wanda, Minn.	25,000
K. KREUGER, West Brook, Minn.	25,000
CROWN ELEVATOR CO., Batavia, Minn.	25,000
CROWN ELEVATOR CO., Hickson, N. D.	25,000
CROWN ELEVATOR CO., Selby, S. D.	25,000
SLEEPY EYE MILLING CO., Arcola, Minn.	20,000
SLEEPY EYE MILLING CO., Wilno, Minn.	20,000
SLEEPY EYE MILLING CO., Hendricks, Minn.	20,000
SLEEPY EYE MILLING CO., Astoria, S. D.	20,000
SLEEPY EYE MILLING CO., Morgan, Minn.	20,000
JENNISON BROS. & CO., Arcola, Minn.	20,000
JENNISON BROS. & CO., Hendricks, Minn.	20,000
SPRINGFIELD ROLLER MILL CO., Wilno, Minn.	20,000
DAVENPORT ELEVATOR CO., Casey, Ia.	20,000
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Cleveland Elevator Company's Elevator, Cleveland, Ohio	500,000
Erie R. R. Transfer & Clipping House, Chicago, Ill.	100 cars in 10 hours
Manchester Ship Canal Co.'s Elevator, Manchester, England	1,500,000
Burlington Elevator, Peoria, Ill.	500,000
Canada-Atlantic Railway Elevator, Coteau Landing, Que.	500,000
Northern Grain Co., Manitowoc, Wis.	1,400,000
Union Elevator, East St. Louis, Ill.	1,100,000
Chesapeake & Ohio Ry. Elevator, Newport News, Va.	1,000,000
Grand Trunk Ry. New Transfer House, Chicago.	500,000
Halliday Elevator Co.'s Elevator, Cairo, Ill.	500,000
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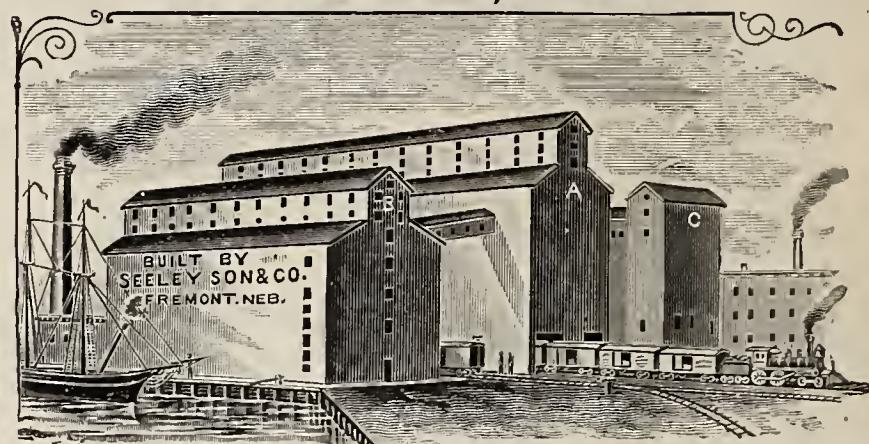
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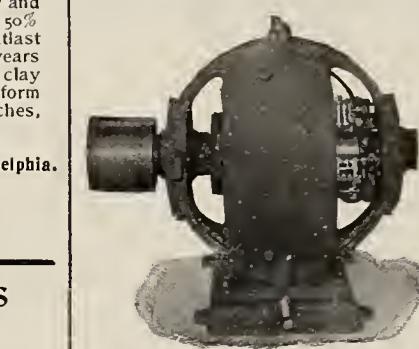
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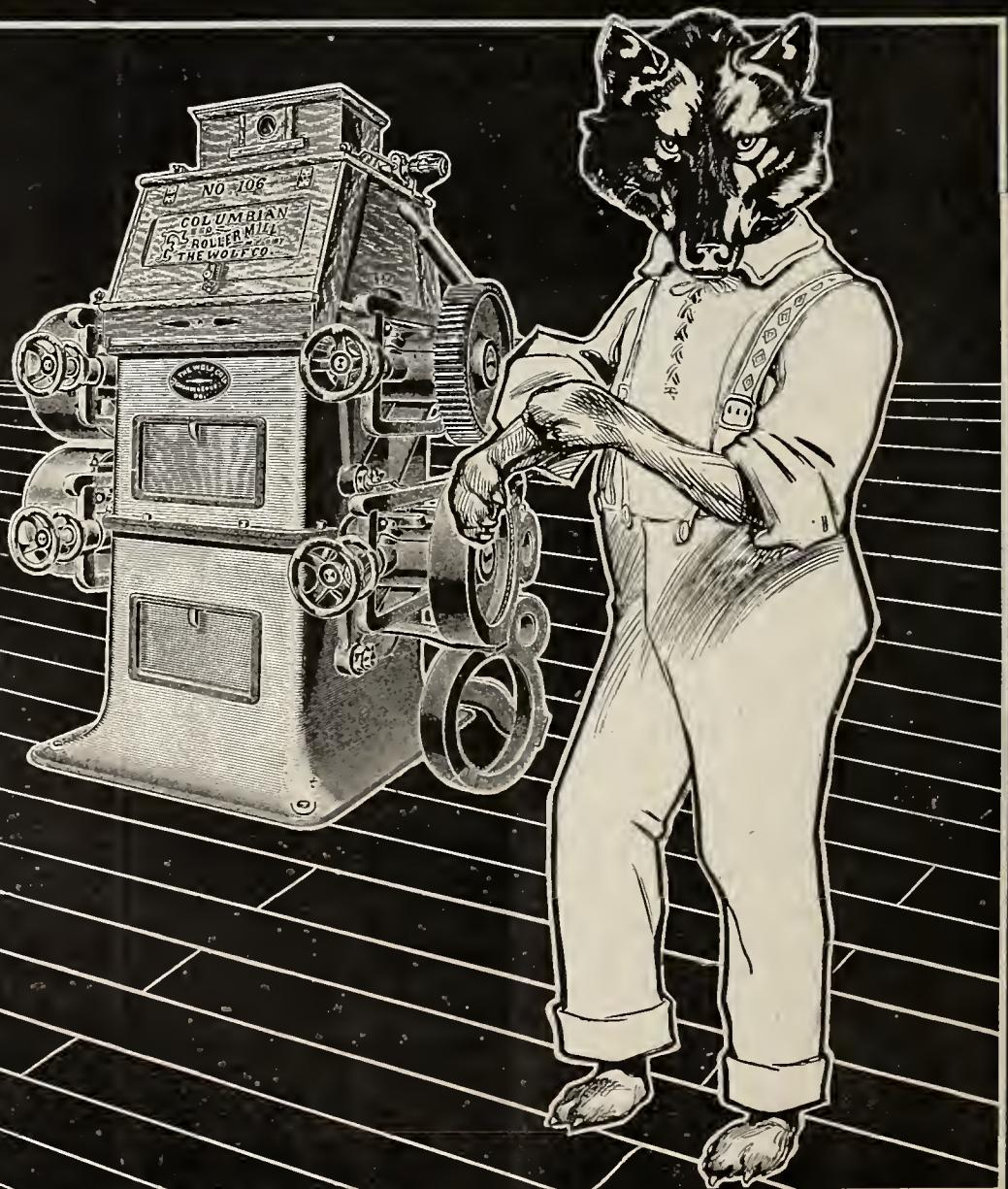
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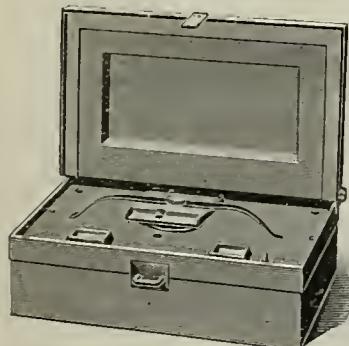
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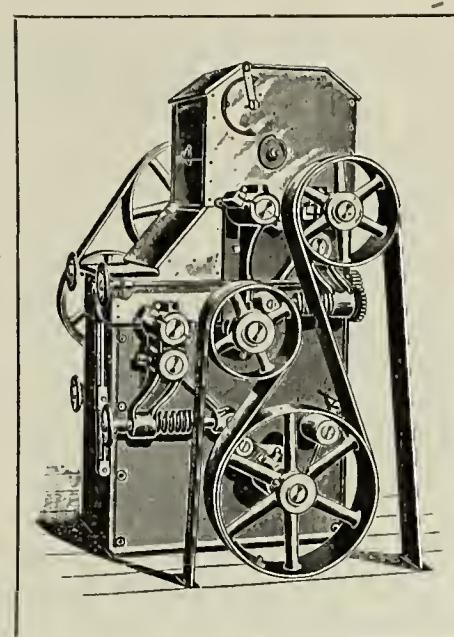
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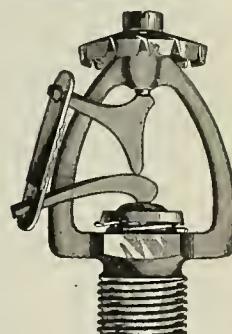
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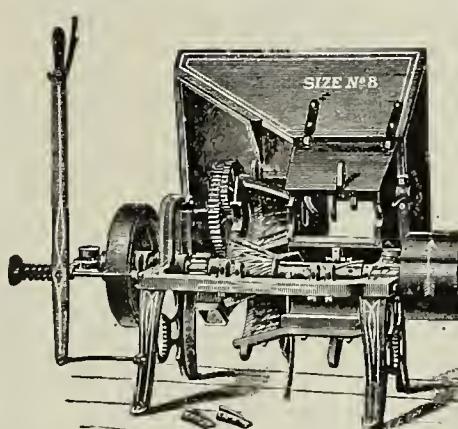


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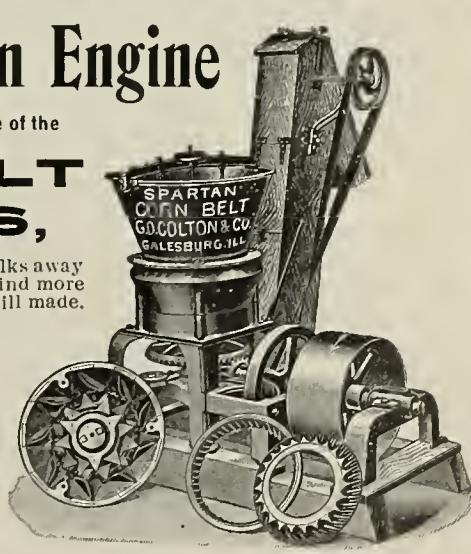
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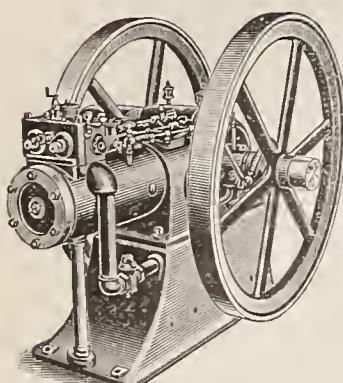
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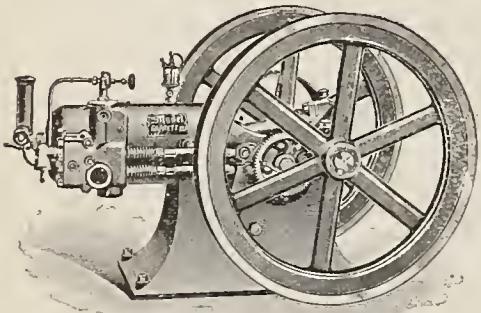
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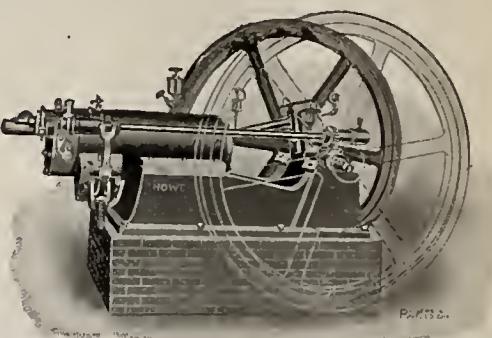
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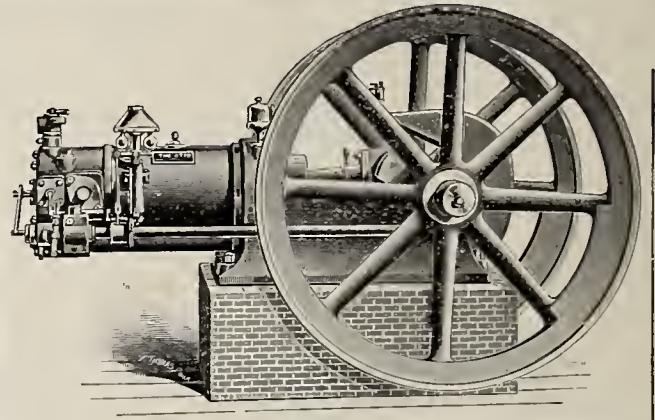


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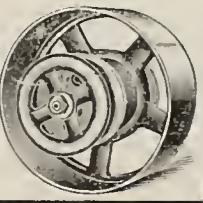
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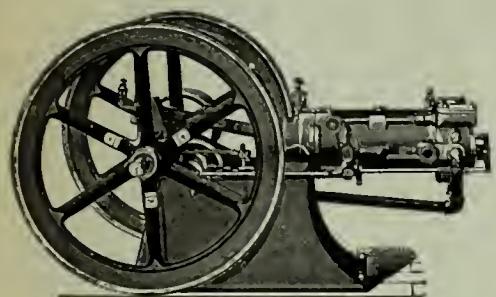
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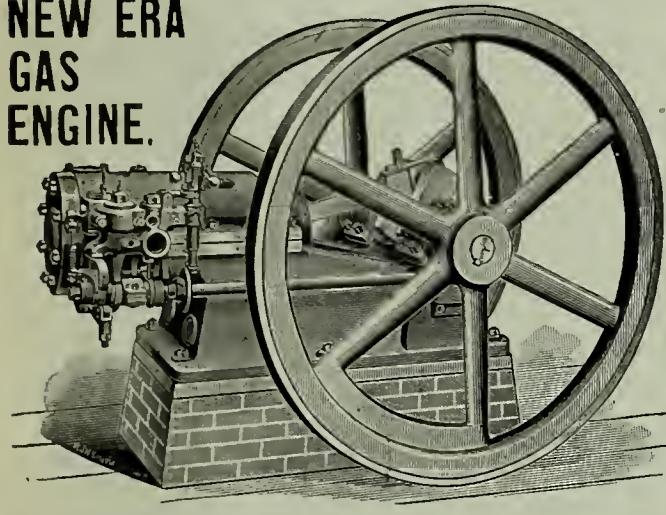


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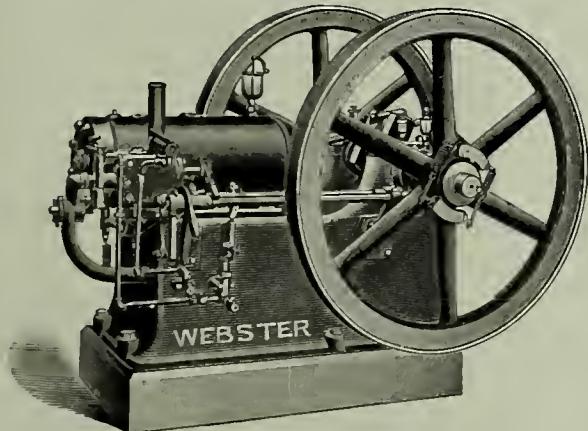
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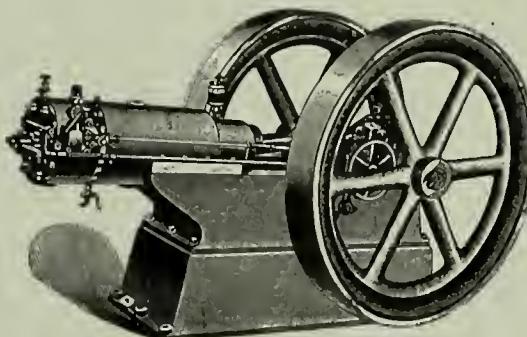
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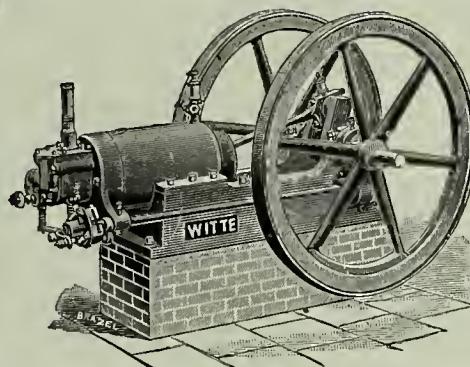
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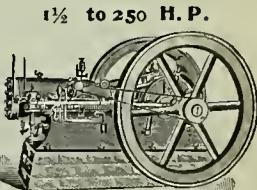
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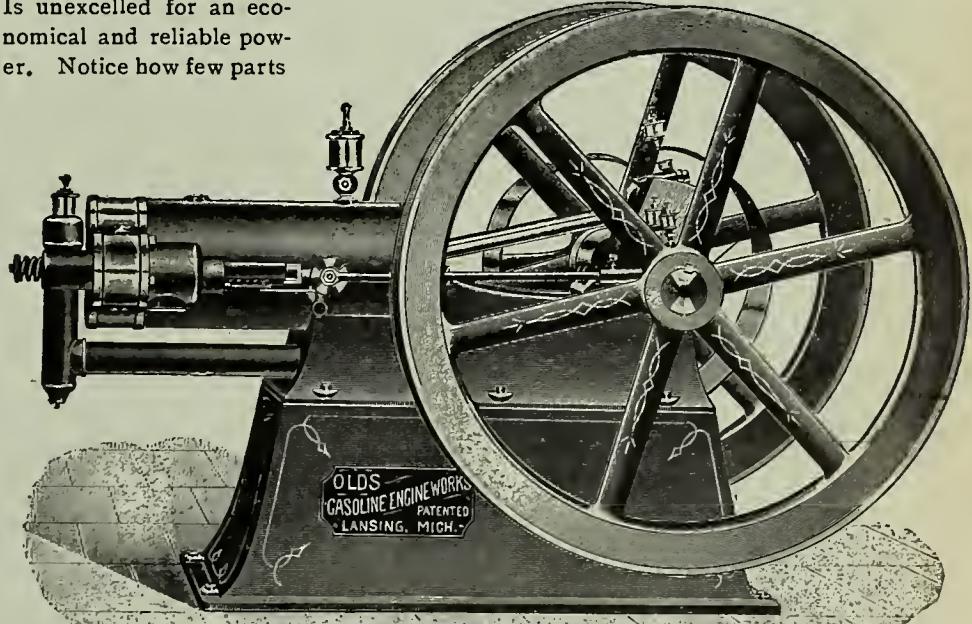
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Is unexcelled for an eco-
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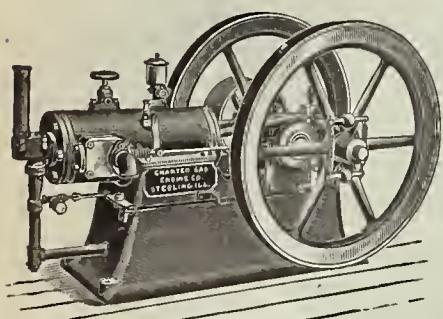
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Questions and Answers in Elevator and Mill Equipment.

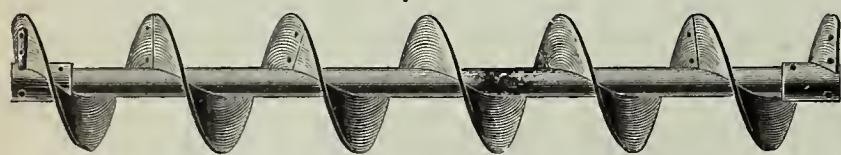
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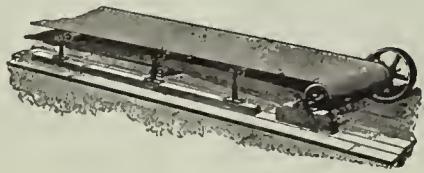
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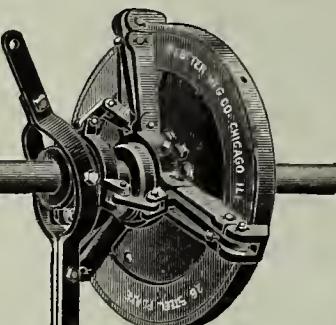


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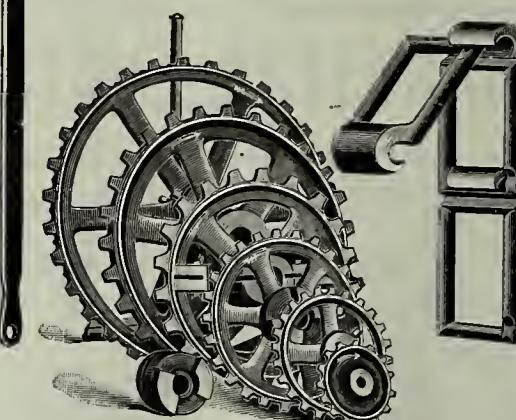
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